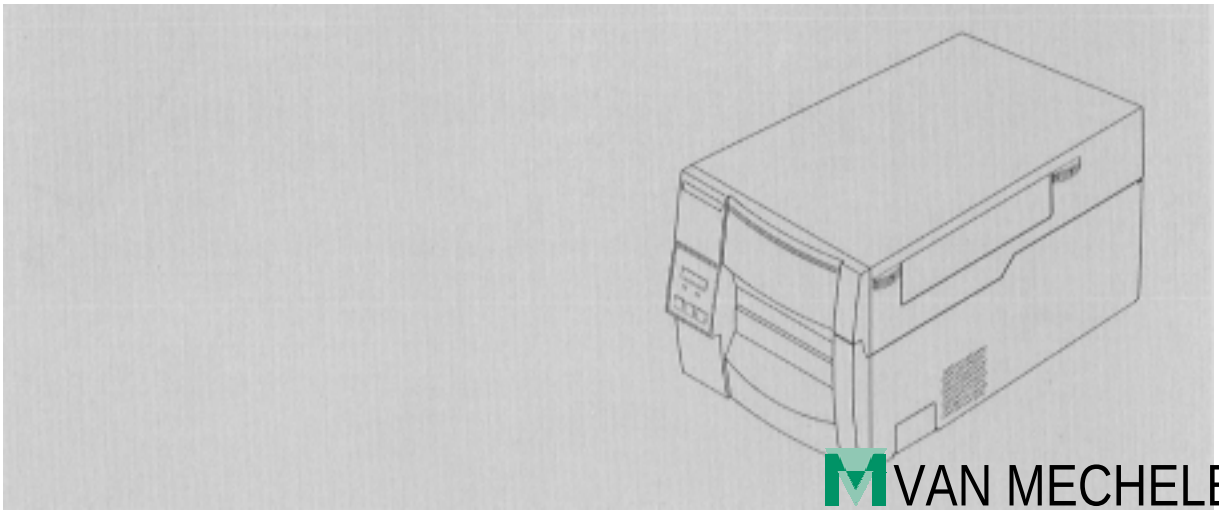
CITIZEN

USER'S MANUAL

Thermal Transfer Bar Code Printer

CLP-7201e

CLP-7202e



VAN MECHELEN
KANTOORMACHINES – KANTOORMATERIALEN
TURNHOUT –GEEL
www.vanmechelen.be

FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

COMPLIANCE STATEMENT FOR EUROPEAN USERS

CE marking shows conformity to the following criteria and provisions:

Low Voltage Directive (73/23/EEC)/EN60950

EMC Directive (89/336/EEC)/EN55022, EN55024, EN61000-3-2 & EN61000-3-3

EMI COMPLIANCE STATEMENT FOR CANADIAN USERS

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This equipment is designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Use shielded cables to connect this device to computers.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

ETAT DE CONFORMITE EMI A L'USAGE DES UTILISATEURS CANADIENS

Cet équipment produit et utilise l'énergie à radiofréquences et s'il n'est pas installé et utilisé correctment, c'esst à dire en accord strict avec les instructions du fabricant, il risque de provoquer des intérferences avec la réception de la radio et de la télévision.

Le présent appareil numérique n'émet pas de bruite radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Réglement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Cet équipment est conçu pour fournir une protection satisfaisante contre de telles interférences dans une installation résidentielle. Cependant, il n'y a pas de garantie contre les interférences avec les réceptions radio ou télévison, provoquées par la mise en et hors circuit de l'équipment; aussi, il est demandé a l'utilisateur d'essayer de corriger l'interférence par l'une ou plus des mesures suivantes:

- Réorienter l'antenne de réception.
- Installer l'ordinateur autre part, par égard pour le récepteur.
- Brancher l'ordinateur dans une prise de courant différente de façon à ce que l'ordinateur et le récepteur soient branchés sur des circuits différents.

Important Safety Instructions

1. Read all of these instructions and save them for later reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
6. Slots and openings on the cabinet and the back or bottom are provided for ventilation.

   To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power source indicated on the marking label.

   If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a three-pronged plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be walked on.
10. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes for 120V outlet and 7.5 amperes for 220V(240V outlet.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
12. Except as explained elsewhere in this manual, don't attempt to service this product yourself. Opening and removing those covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks. Refer all servicing on those compartments to service personnel.
13. The mains plug on this equipment must be used to disconnect mains power. Please ensure that the socket outlet is installed near the equipment and shall be easily accessible.
14. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    A. When the power cord or plug is damaged or frayed.
    B. If liquid has been spilled into the product.
    C. If the product has been exposed to rain or water.
    D. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
    E. If the product has been dropped or the cabinet has been damaged.
    F. If the product exhibits a distinct change in performance, indicating a need for service.

Notice

1. Before use, be sure to read this manual. And keep it handy for reference when needed.
2. The contents of this manual may change without prior notice.
3. Reproduction, transfer, or transmission of the contents of this manual without prior consent is strictly prohibited.
4. We are not liable for any damage resulting from the use of the information contained herein, regardless of errors, omissions, or misprints.
5. We are not liable for any problems resulting from the use of optional products and consumable supplies other than the designated products contained herein.
6. Do not handle, disassemble or repair the parts other than those specified in this manual.
7. We are not liable for any damage caused by user's erroneous use of the printer and inadequate environment.
8. Data residing in the printer is temporary. Therefore, all data will be lost if power is lost. We are not liable for any damage or loss of profits caused by data loss due to failures, repairs, inspections, etc.
9. Please contact us if there are any mistakes or ambiguities within this manual.
10. If there are missing or incorrectly collated pages in this manual, contact us to obtain a new manual.

SAFETY INSTRUCTIONS
— must be strictly observed !

- **To prevent personal injury or property damage, the following shall be strictly observed.**

- **The degree of possible injury and damage due to incorrect use or improperly following instructions is described below.**

WARNING — Indicates a situation which, if not observed and handled properly, could result in death or serious injury.

CAUTION — Indicates a situation which, if not observed and handled properly, could result in injury.

This is a mark to call attention to the reader.

⚠ WARNING

- Never perform the following. If not avoided, these may cause damage or trouble to the printer or cause the printer to overheat and release smoke and cause burns or an electrical shock. If the printer is damaged or is malfunctioning, be sure to turn the power off immediately and remove the power cord from the outlet, then consult our service personnel.

  - Do not jolt or impact to the printer by stepping on, dropping or hitting the printer.
  - Do not place the printer in a poorly ventilated area, or shut off the air vent of the printer.
  - Do not place the printer where chemical reactions occur, such as in laboratories or where air is mixed with salt or gas.
  - Do not use a power voltage or frequency other than those specified.
  - Do not plug/unplug the power cord or attach/detach the interface cable by simply grabbing the power cord or interface cable. Do not pull or carry the printer when the tension of the power cord or interface cable is increased.
  - Do not drop or put foreign matter such as clips and pins into the printer. This may cause problems.
  - Do not plug the power cord into an outlet with many loads.
  - Do not spill drinks such as tea, coffee and juice on the printer or spray insecticide on the printer. If drink or water is spilled, first be sure to turn the power off and remove the power cord from the outlet, then consult our service personnel.
  - Do not disassemble or modify the printer.

- Discard or safely store the plastic packing bag. This bag should be kept away from children. If the bag is pulled over a child's head, it may cause suffocation.

General Precautions

1. Prior to operation, read the safety instructions carefully and observe them.
2. Do not drop or put foreign matter such as clips and pins into the printer. This may cause problems.
3. Be careful when moving or carrying the printer. Dropping the printer may cause injury or property damage.
4. Make sure if you open the top cover, it is opened all the way. If only partially open, the cover could slam shut, possibly causing injury.
5. When the cover is open, be careful of the corners of the cover. They could cause injury.
6. Do not open the printer during printing.
7. When cleaning the surface of the printer case, do not use the cloth that is soaked in thinner, trichloroethylene, benzine, ketone or similar chemicals.
8. Do not use the printer where there is a lot of oil, iron particles, or dust.
9. Do not spill liquids or spray insecticide on the printer.
10. Do not jolt or impact to the printer by stepping on, dropping or hitting the printer.
11. Operate the control panel properly. A careless, rough handling may cause problems or malfunction. Do not use such sharp-edged tool as a ballpoint pen for operation.
12. Be careful of the edges of the plates so injury or property damage is possible.
13. If a problem occurs during printing, stop the printer immediately and unplug the power cord from the outlet.
14. When printer trouble occurs, do not try to dissemble it. Instead, consult our service personnel.

Precautions When Installing the Printer

1. Prior to operation, read the safety instructions carefully and observe them.
2. Do not use or store the printer near fire, excessive moisture, in direct sunlight, near an air conditioner or heater or other source of unusually high or low temperature or humidity or excessive dust.
3. Do not place the printer where chemical reactions occur, such as in a laboratory.
4. Do not place the printer where air is mixed with salt or gas.
5. The printer must sit on a firm, level surface where there is ample ventilation. Never allow the printer's air vent to be blocked by a wall or other object.
6. Do not put anything on the top of printer.
7. Do not place the printer near a radio or television, and do not use the same wall outlet for the printer and radio or television. Radio or television reception could be adversely affected.
8. Do not use a power voltage or frequency other than those specified.
9. Do not put anything on the power cord or step on it.
10. Do not drag or carry the printer with the power cord or interface cable.
11. Avoid plugging the power cord into an outlet with many loads.
12. Do not bundle the power cord when inserting the plug.
13. Always grip the plug housing, not the cord, to plug/unplug the power cord.
14. Make certain the power is turned off before connecting/disconnecting the interface cable.
15. Avoid lengthening the signal cable or connecting it to any noise-producing device. If it is unavoidable, use the shielded cable or twisted pair for each signal.
16. Place the printer near the outlet where the power cord can be unplugged easily to shut off power.
17. Use the AC outlet that accepts a three-pronged plug. Otherwise, static electricity may be generated and there will be danger of electric shock.

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Main Features

Optimum ribbon tension

The Active Ribbon Control & Positioning technology used in this printer gives improved print quality with a wide range of media and ribbon combinations. ARCP is designed to eliminate ribbon wrinkling and slippage. Thus print registration and positioning especially with small labels are improved.
When a ribbon is initially installed, the source ribbon spool is considerably larger than the destination spool. By the end of the ribbon, this situation is reversed leading to noticeable variations in ribbon tension. Our new ARCP technology is designed specifically to eliminate this effect by equalizing the ribbon tension throughout the print run.

High-speed, high-quality printing

This printer adopts both a direct-thermal and thermal-transfer printing system with the line thermal head and its unique control IC enables high-speed and high-quality printing.

Powerful control language

A powerful yet simple to use control language is standard to all of Citizen's label printers allowing easy design of labels and bar codes. Alternatively, Citizen provides printer drivers for popular operating systems such as Windows(tm).

Easy operation

Thanks to the clam-shell mechanism, labels, media and ribbons are loaded easily and maintenance such as head cleaning is carried out smoothly.

IEEE1284 Parallel, serial and USB ports as the standard

The enhanced parallel, serial and USB ports are provided as the standard to enable high-speed data transmitting and industry compatible connectivity.

Adjustable sensor

The adjustable, moveable sensor, standard on the CLP-7201e, allows irregularly cut labels and tags to be used with ease. The sensor can also detect black registration marks that are not at the edge of the media.

LAN Ethernet and WiFi (optional)

The LAN Ethernet and WiFi interfaces are optionally available to meet the variety of needs of computer-printer network.

Trademark Acknowledgement:

Windows: Microsoft Corporation

Model Description

The following two models are available. The main different points between the two models are shown below.

Model	Print resolution	Printing speed	Adjustable media sensor	Flash Memory
CLP-7201e	200dpi	2–7 IPS	Standard	Standard on-board
CLP-7202e	200dpi	2–7 IPS	Optional	Via PCMCIA card

Chapter 1

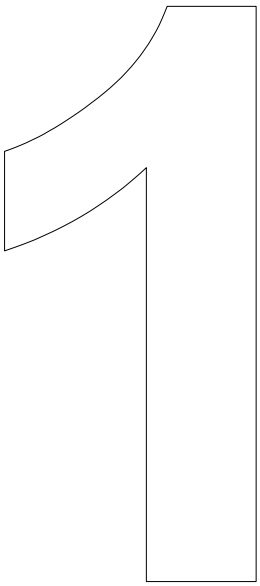
Setup

1 Confirmation of Carton Contents

2 Part Names and Functions

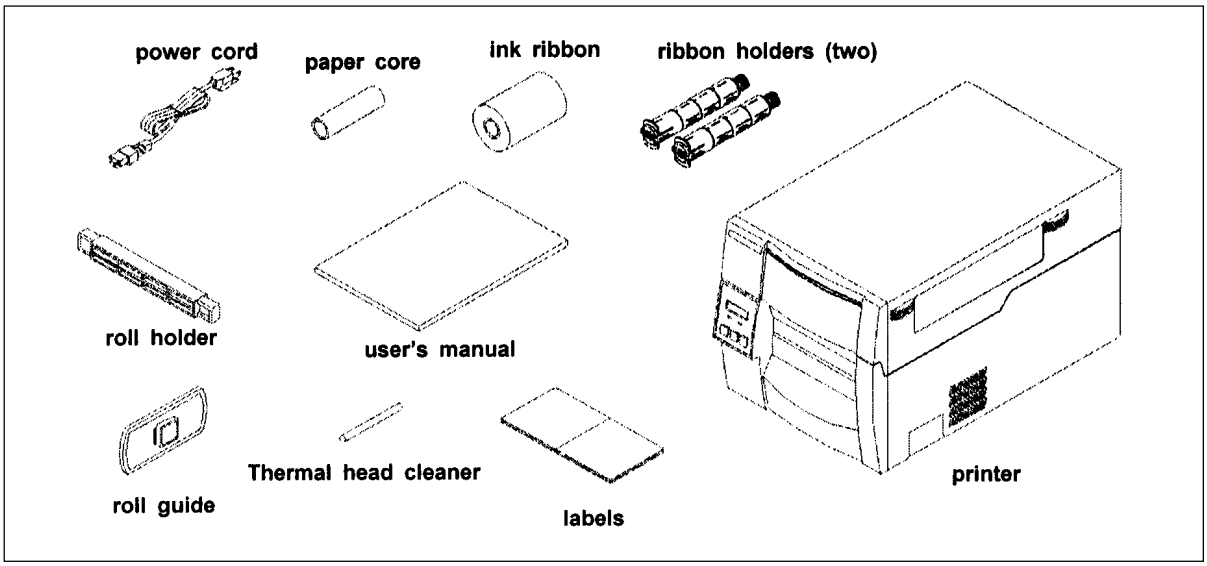
3 Connection to Power

4 Connection to a Computer



1 Confirmation of Carton Contents

Check that the following accessories are included with the printer in the carton.



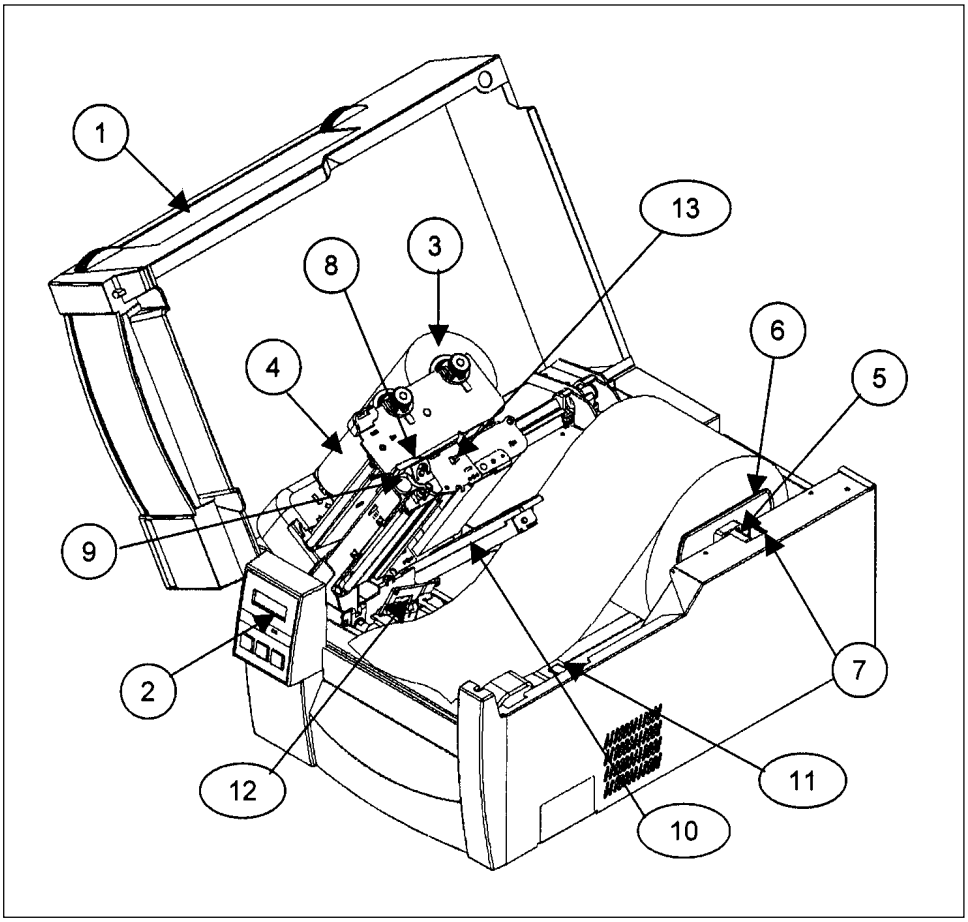
The empty carton and packing materials should be stored for future shipping of the printer.

CAUTION

- Be careful when moving or carrying the printer and when taking the printer out of the carton. The printer may cause injury or property damage if dropped. Be sure to grip the printer housing firmly when taking it out of the carton. Do not grip the printer by the foam packing material which may break, causing the printer to drop.
- When opening the cover, open it all the way. If only part way open, the cover could slam shut, possibly causing injury.
- Be careful of the edge of the cover when the cover is opened. It may cause injury or property damage.
- Be careful of the edges of the metal plates so injury or property damage is possible.

2 Part Names and Functions

Front view



(1) Cover
Opens to allow loading of the media and ribbon.

(2) Control panel
To set the printer configuration settings. (See Chapter 2.)

(3) Ribbon holder
To attach the ribbon. (See Chapter 3.)

(4) Ribbon winder
To wind the ribbon after printing. (See Chapter 3.)

(5) Roll holder
Holds the roll of media.

(6) Roll guide
Guides the roll of media. This is adjusted according to the width of the media. (See Chapter 3.)

(7) Media holder
Holds the roll holder. (See Chapter 3.)

(8) Open lever
To swing the printhead out of the way when loading the media or cleaning the printhead. (See Chapter 3.)

(9) Printhead pressure adjustment knob
(See Chapter 4.)

(10) Open guide
Holds down the media. The adjustable, movable media sensor inside (available for the model CLP-7201e) detects the media position. (See Chapter 3.)

(11) Open guide lever
Pressing this opens the open guide to replace the media. (See Chapter 3.)

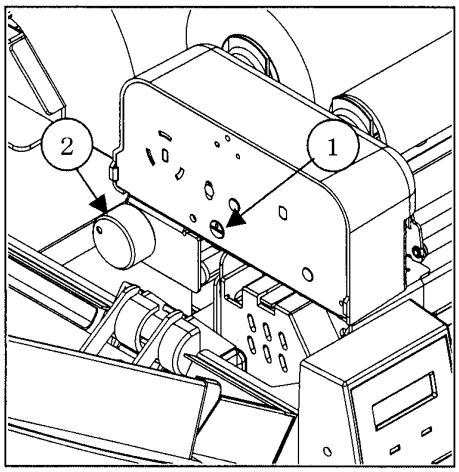
(12) Front sensors
Detect the label or tag position. (See Chapter 3.)

(13) Offset check window
Allows you to check the optimum position of the printhead. (See Chapter 4.)

Side view

(1) Adjust-screw
To change the ribbon tension setting on the winding side. (See Chapter 4.)

(2) Rear tension knob
To change the ribbon tension setting on the feeding side. (See Chapter 4.)



Rear view

(1) Serial interface connector
To connect the serial interface cable.

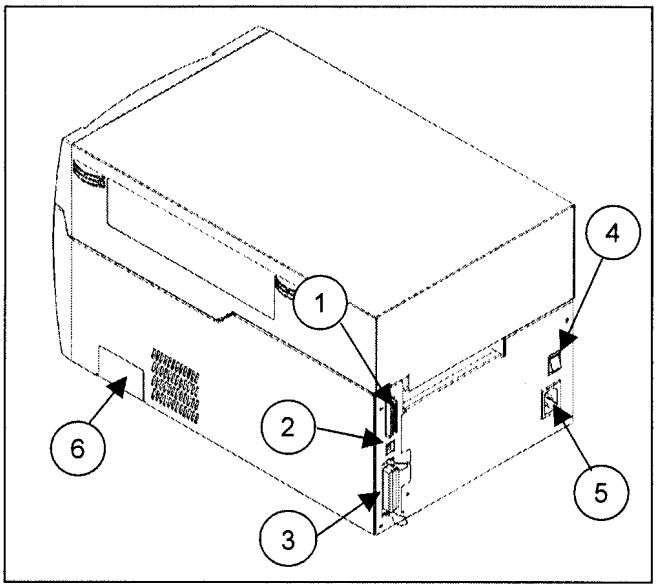
(2) USB interface connector
To connect the USB interface cable.

(3) Parallel interface connector
To connect the parallel interface cable.

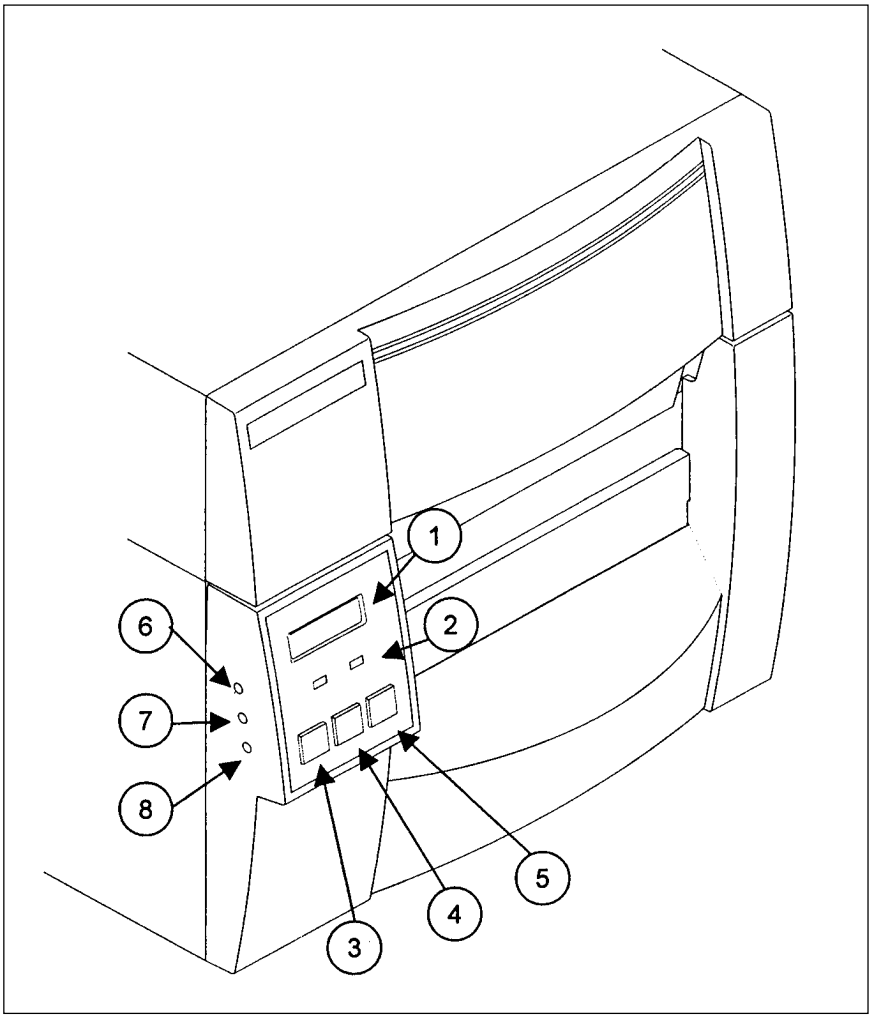
(4) Power switch
To turn on or off the power.
(See Chapter 2.)

(5) Power inlet
To connect the power cord.

(6) PCMCIA memory card cover
To protect the PCMCIA memory card from exposure to dust and foreign matter. To install a PCMCIA memory card, first unhook this cover, then slide it out. (See Appendixes.)



Control panel



(1) LCD
Displays the current printer status, configuration settings, or an error message.

(2) LEDs
One LED is the power indicator and the other the error indicator.

(3) PAUSE key
Temporarily pauses printing.

(4) FEED key
Feeds the media.

(5) STOP key
Stops the printer operating.

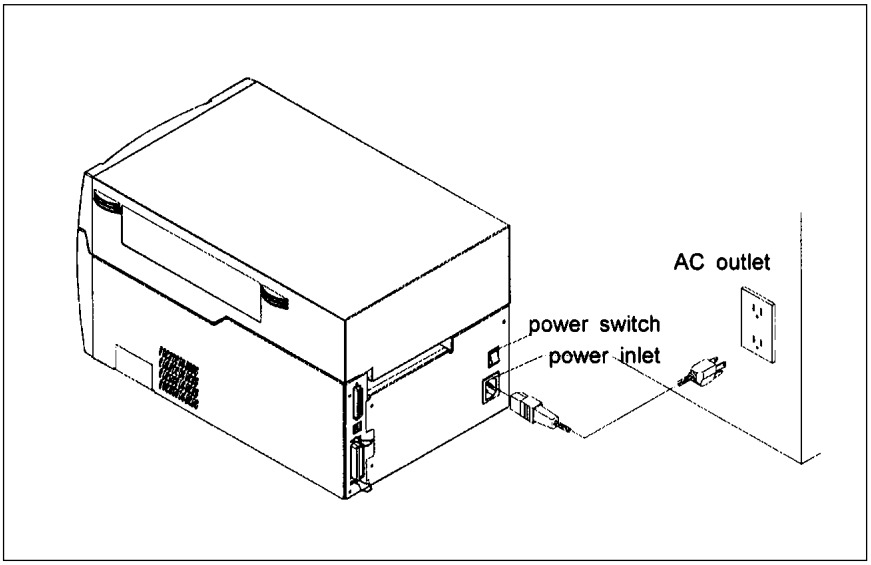
(6) Media gap adjustment control
To adjust the media gap sensor sensitivity.

(7) Black mark adjustment control
To adjust the black mark sensor sensitivity.

(8) LCD contrast adjustment control
To adjust the LCD contrast.

3 Connection to Power

1. Check that the power switch to the printer is turned OFF.
2. Connect the connector of the power cord to the power inlet on the printer.
3. Insert the plug of the power cord in the AC outlet.



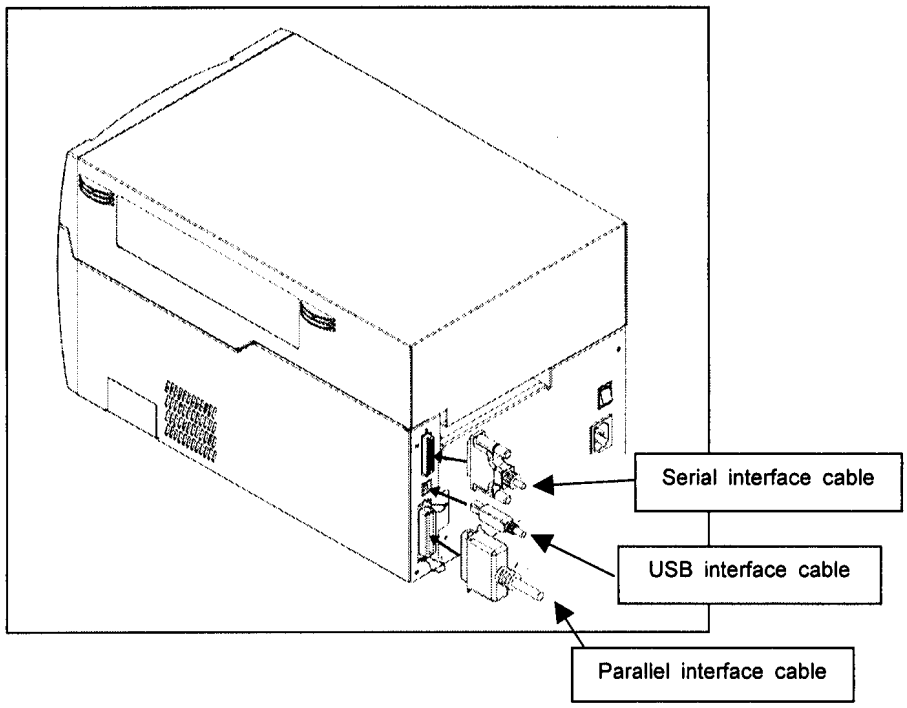
CAUTION

- Use an AC outlet that accepts a three-pronged plug. Otherwise, static electricity may be generated and there will be danger of electric shock.

4 Connection to a Computer

An interface cable is necessary to connect the printer to a computer.
To connect the cable, proceed as follows:

1. Turn OFF both power switches of the printer and the computer.
2. Connect the connector of one end of the interface cable to the interface connector on the back of the printer and secure it with locks or locking screws.
3. Connect the connector of the other end of the interface cable to the interface connector on the computer and secure it with locks or locking screws.



Chapter 2

Printer Operation

1 Power On/Off

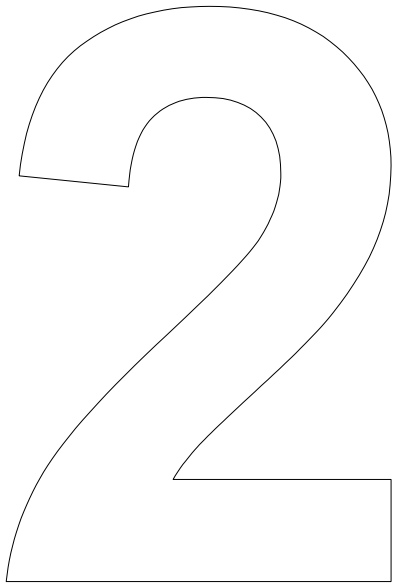
2 Normal Operating Mode

3 Printer Configuration Setting Mode

4 Self-Test Mode & Hex Dump Mode

5 System Maintenance Mode

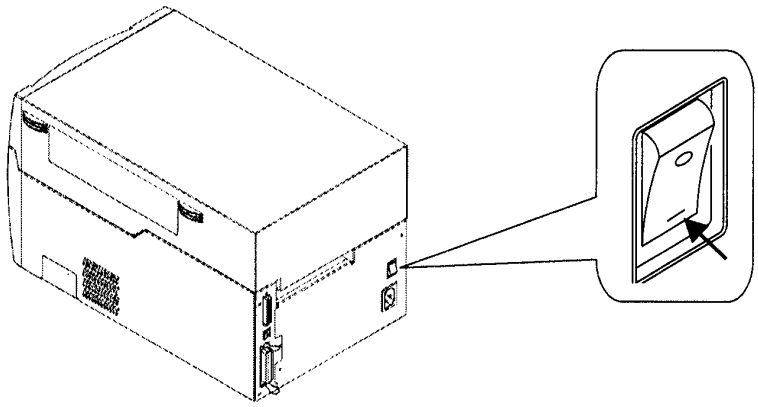
6 Returning to Factory Setting



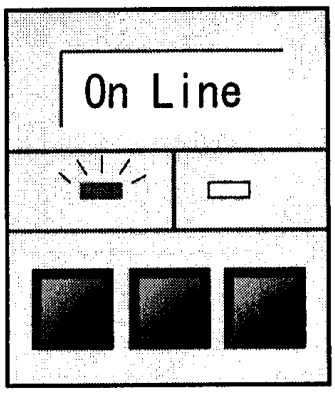
1 Power On/Off

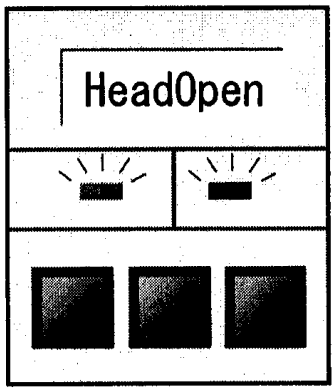
Turning on the power

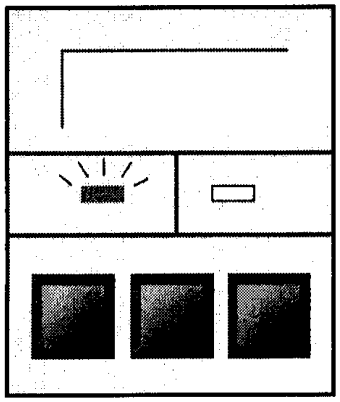
1. Turn on the power switch on the back of the printer.

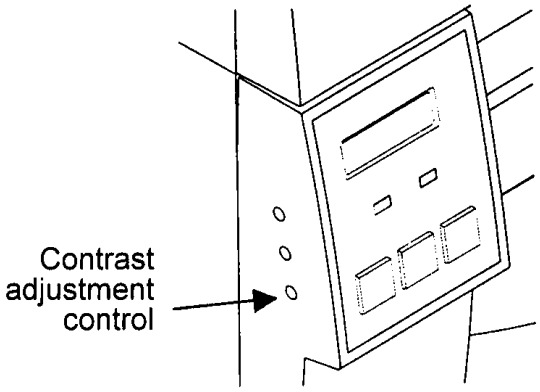


2. The green LED is lit. Check that the LCD screen displays 'On Line.'



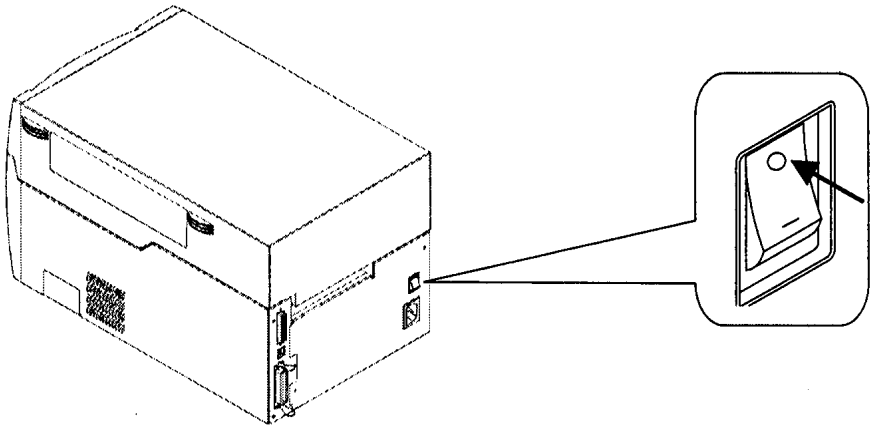




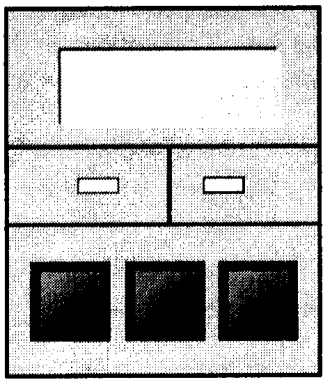


Turning off the power

1. Turn off the power switch on the back of the printer.

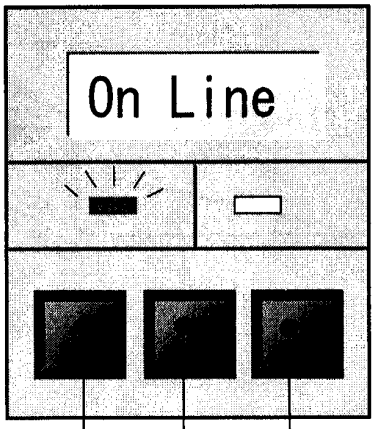


2. The green LED goes off and any message on the LCD screen disappears.



2 Normal Operating Mode

When the power is turned on, the printer enters the normal operating mode, which allows normal printing. The control key functions are as follows:



STOP key

With this key, the operator can stop and cancel the current print job. Pressing the STOP key during printing stops the printing immediately. Pressing it again cancels the print job.

FEED key

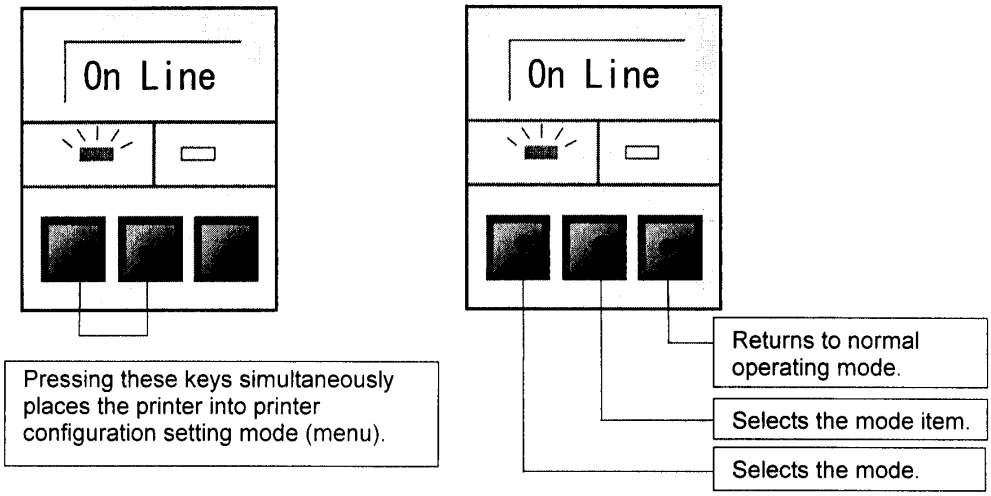
Advance to the top of the next label. When Using continuous media, make sure the Sensor selection is set to ContinuP or a Media error will result.

PAUSE key

Temporarily pauses printing. 'Pause' is displayed on the LCD screen. If pressed during printing, printing will stop after the current label is printed. Press the PAUSE key again to resume printing.

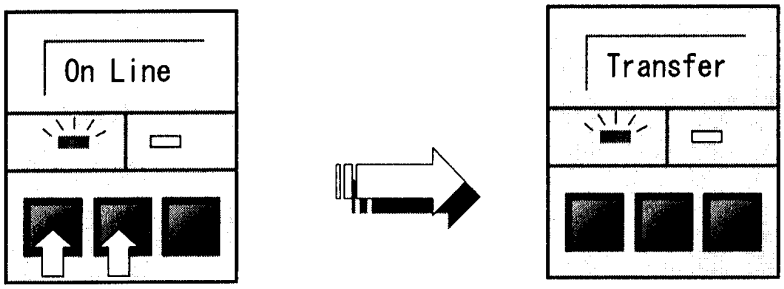
3 Printer Configuration Setting Mode

In this menu, the print mode, the 'after printing function' such as cutting or peeling, media sensor selection and print quality settings such as print speed or density are configured. Control key functions are shown below. The printer configuration settings are stored in memory so they are maintained even after the power is turned off.

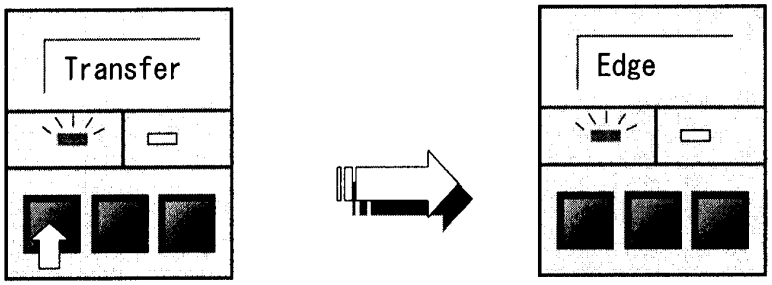

On Line
On Line
Pressing these keys simultaneously places the printer into printer configuration setting mode (menu).
Returns to normal operating mode.
Selects the mode item.
Selects the mode.

Example: Changing the media gap sensor to the black mark sensor

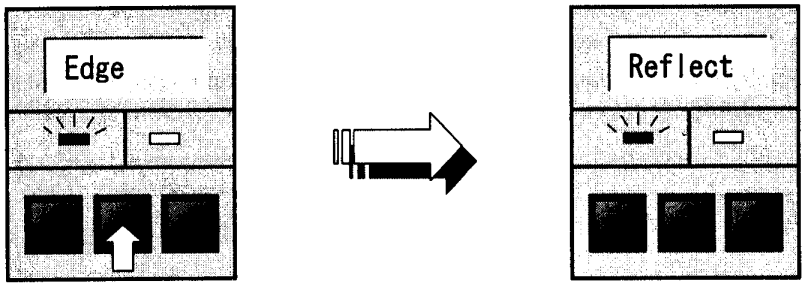
1. First check the printer goes On Line, then press and hold down the PAUSE key and press the FEED key.



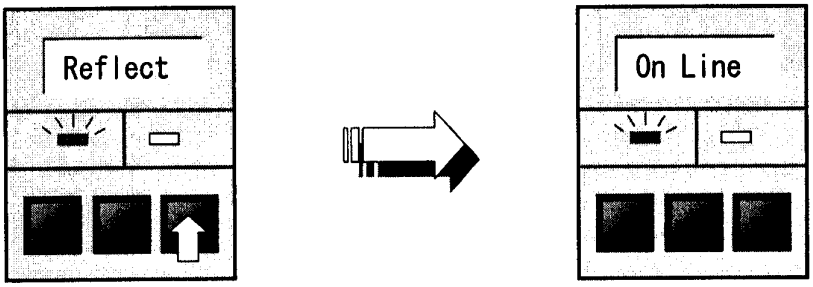
2. Change the print mode (direct-thermal or thermal transfer printing) to the sensor selection with the PAUSE key.



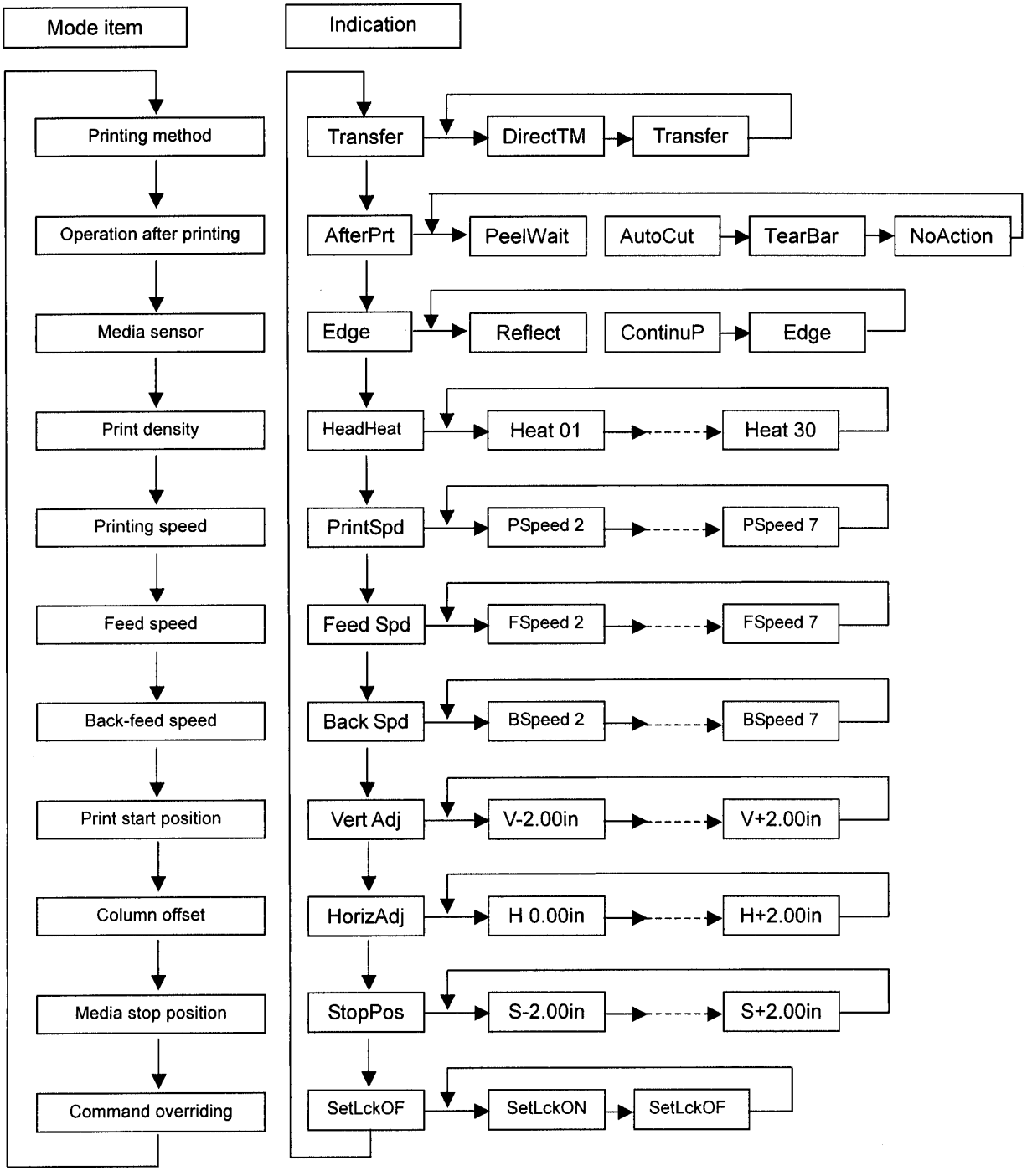
3. Change the media gap sensor to the black mark sensor with the FEED key.



4. Return to normal operating mode with the STOP key.



Display Indications

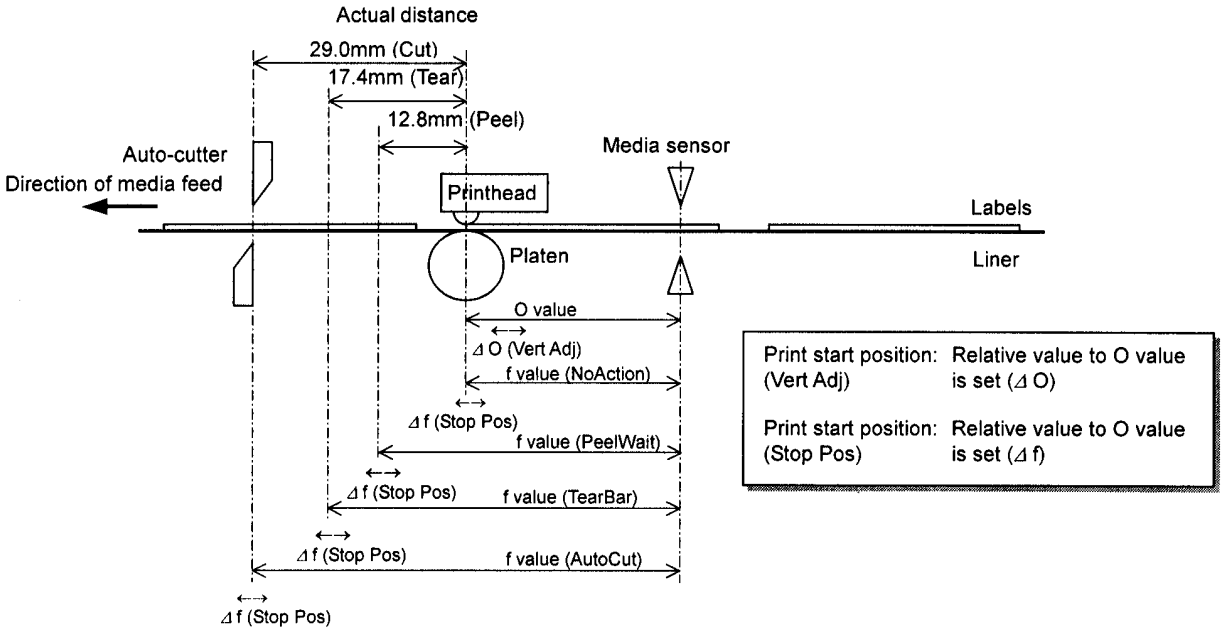


List of Mode Items

	Indication	Description
Printing method	Transfer	Thermal transfer printing is performed
	DirectTM	Direct thermal printing is performed
Operation after printing	PeelWait	Selected when peeler (option) is used
	AutoCut	Selected when auto-cutter (option) is used
	TearBar	Media is automatically advanced to the cut position after printing
	NoAction	No operation is performed after printing
Media sensor	Edge	Transparent type sensor is used to detect the media position with media gaps or notches
	Reflect	Reflective type sensor is used to detect the media position with black marks
	ContinuP	Printing on continuous media is performed without detecting media gaps
Print density	Heat 01	Print density is set
	:	
	Heat 30	
Printing speed	Pspeed 2	Printing speed is set
	:	
	Pspeed 7	
Feed speed	Fspeed 2	Feed speed is set
	:	
	Fspeed 7	
Back-feed speed	Bspeed 2	Back-feed speed is set
	:	
	Bspeed 7	
Print start position	V-2.00in	Print start position is set (relative value to default value is used)
	:	
	V+2.00in	
Column offset	H 0.00in	Column offset (horizontal direction) is set
	:	
	H+2.00in	
Media stop position	S-2.00in	Media stop position is set (relative values to default values for peeling, auto-cutter, tearing are used)
	:	
	S+2.00in	
Command overriding	SetLckOF	Printing mode settings are allowed with command
	SetLckON	Printing mode settings are not allowed with command

Note: When the printer is switched off and on, the initial values for these menu items selected by the printer configuration setting mode will be retrieved from the flash memory.

Notes when setting print start position and media stop position

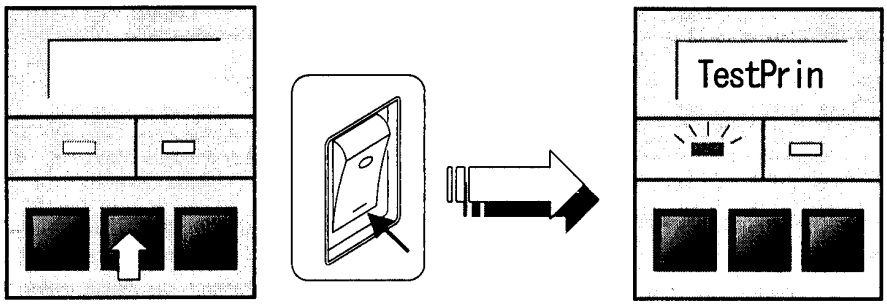


- When the "AfterPnt" menu item is set to "AutoCut", the relation between print start position and media stop position should be set to [(O ((f]. If the value is set so that [(O < (f], the media may be out of platen.
- If the absolute value to O value is larger than the absolute value to f value as the set value of [(O] increases, the media stop position may change. However, if the absolute value to f value is smaller than the absolute value to O value as the set value of [(f] decreases, the media stop position may not change.
- When the "AfterPnt" menu item is set to "PeelWait", the set value of [(f] should be limited; the larger value causes labels to unexpectedly peel off.

4 Self-Test Mode & Hex Dump Mode

In this mode, self-test printing is performed, and you can check the current printer configuration settings and print quality. After loading the media and ribbon, operate the printer in the following way:

1. Turn ON the power switch while pressing and holding the FEED key.
   When labels are used, hold down the FEED key for two seconds and the printer will feed the media and print samples 1 and 2 (see below) and stop.
   When continuous media is used, hold down the FEED key for four seconds and the printer will feed the media and print samples 1 and 2 (see below) and stop.



Sample 1

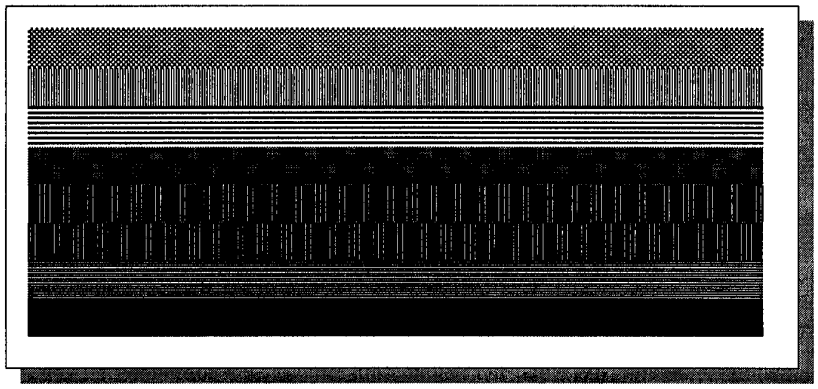
ROM version No.
Date and time
ROM checksum
RAM check
Protocol setting
Print mode
Media sensor type and voltage
Printhead rank and resistance value
Peeling sensor
Auto-cutter
Tear-Off
Total travel distance

```
ROM VERSION              :  BM300301
DATE & TIME              :  1999/05/09  19:48
SYSTEM ROM CHECKSUM      :  02DF GOOD
SYSTEM RAM CHECK         :  1024K byte GOOD

SERIAL PORT BAUD RATE    :  19200BPS BIT_8
                            NON  STOP_1 X_OFF


PRINT MODE               :  DIRECT THERMAL
MEDIA SENSING            :  EDGE SENSOR
                            MAX.  4.08V MIN.  3.68V
HEAD CHECK               :  OK
                            HEAD RANK 8
                            AVE. 146 MAX. 148 MIN. 144
PRESENT SENSOR           :  OFF
AUTO CUTTER              :  OFF
TEAR OFF                 :  OFF
TOTAL LABEL LENGTH(mm)   :  0003218009
```

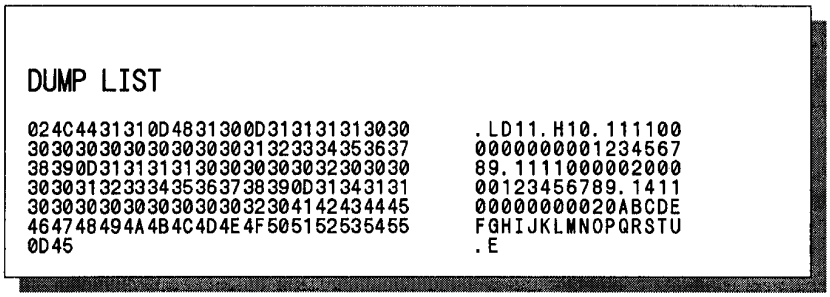
Check the following items in the self-test mode.

Check item	Cause	Remedy
Dot missing	Printhead disconnected	Replace printhead
	Dust adhered	Clean printhead (see Section 5, Chapter 4)
Totally blurred	Printhead offset changed in position	Adjust printhead offset (see Section 1, Chapter 4)
	Printing energy low	Adjust printing energy (see Command Reference)
Partially blurred	Printhead pressure unbalanced	Adjust printhead pressure (see Section 2, Chapter 4)
Ribbon wrinkling and slipping	Ribbon tension improper	Adjust ribbon tension (see Section 3, Chapter 4)

Sample 2
203 dpi



2. After self-test printing, the printer enters the data dump mode (hex dump mode).
   The contents of communication can be checked with the communication data printed in ASCII code.



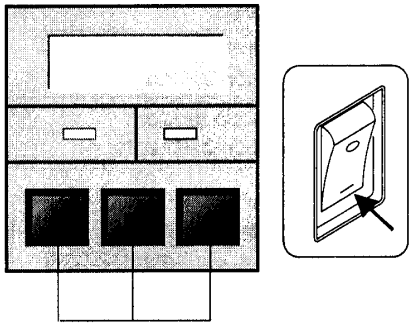
DUMP LIST

```
024C4431310D4831300D313131313030      .LD11.H10.111100
3030303030303030303031323334353637    0000000001234567
38390D3131313130303030303032303030    89.1111000002000
3030313233343536373839 0D31343131     00123456789.1411
3030303030303030303032304142434445    0000000020ABCDE
464748494A4B4C4D4E4F505152535455      FGHIJKLMNOPQRSTU
0D45                                  .E
```

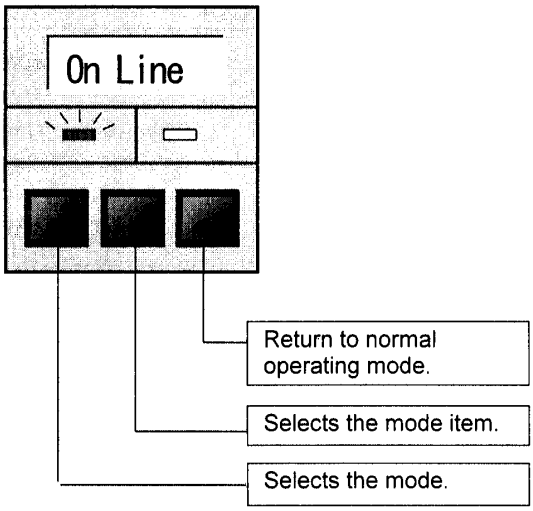
3. Return to normal operating mode after turning OFF the power switch and turning ON again.

5 System Maintenance Mode

In system maintenance mode, the communication, adjustable sensor ON/OFF and sensor voltage selections are set up. The printer configuration settings are stored in memory so they are maintained even after the power is turned off. Control key functions are shown in the following:

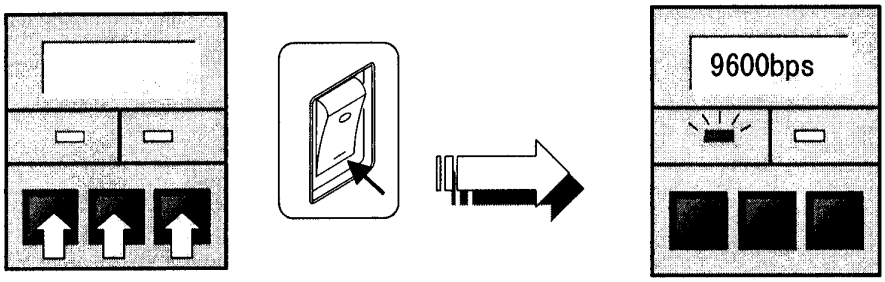


Pressing all these keys simultaneously places the printer into system maintenance mode.

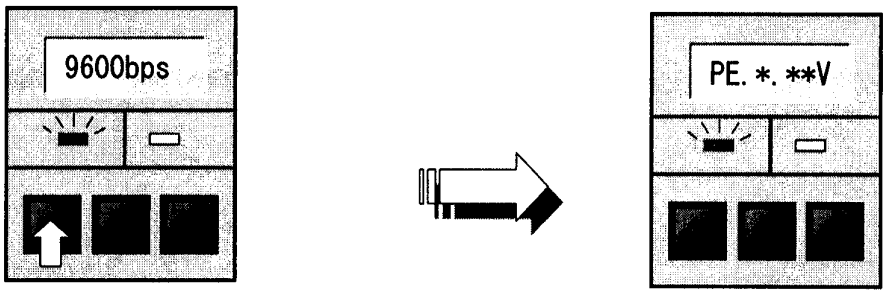


Example: Setting the black mark sensor voltage

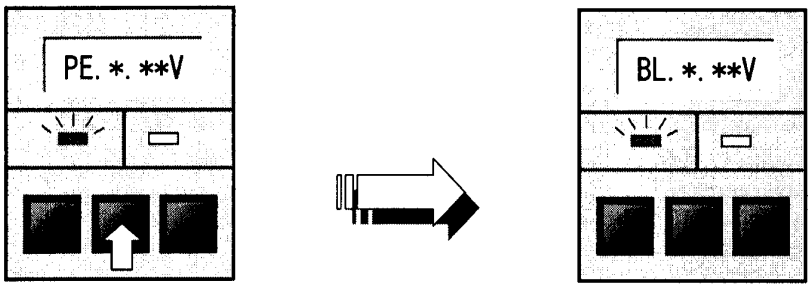
1. First turn OFF the power switch, then press and hold the PAUSE, FEED and STOP keys simultaneously and at the same time turn ON the power switch.



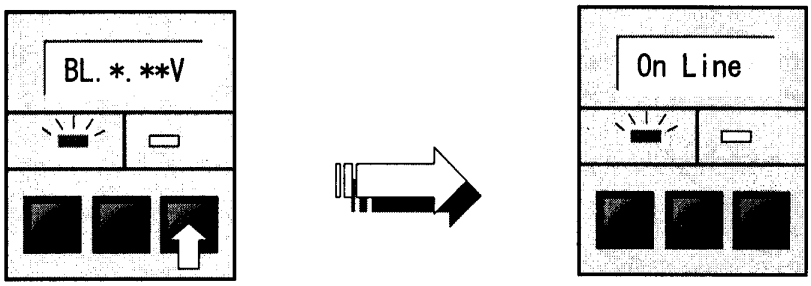
2. Change the baud rate to the sensor voltage setting with the PAUSE key pressed.

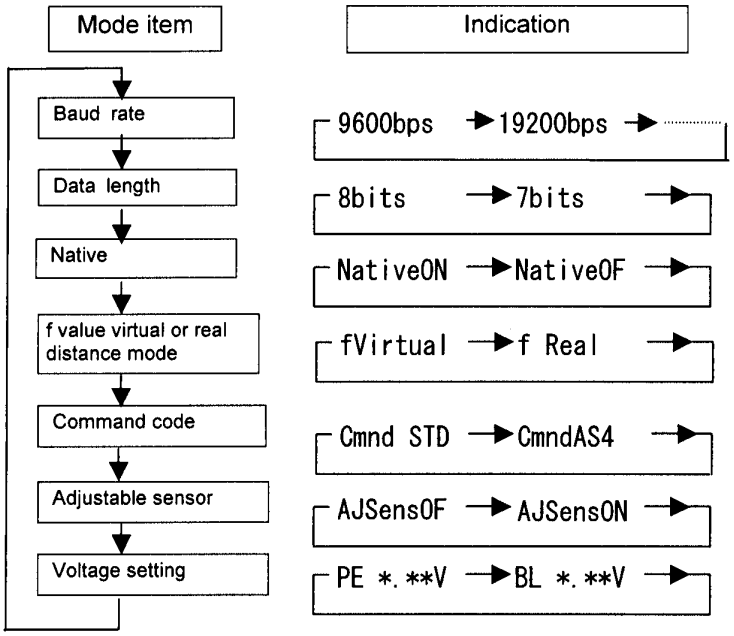


3. Change the media gap sensor voltage to the black mark sensor voltage with the FEED key pressed.



4. Return to normal operating mode with the STOP key pressed.

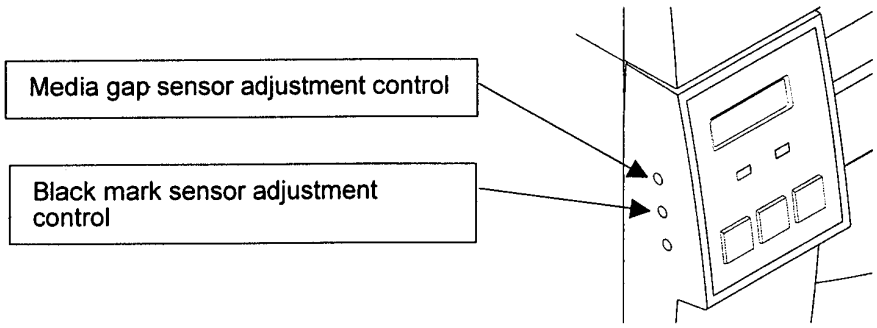




List of Mode Items

Item	Indication	Description
Baud Rate	9600bps	Selection of communication data rate between host computer and printer when using the RS232C serial interface
Data Length	8Bits	Selection of communication data length between host computer and printer when using the RS232C serial interface
Native Command Mode	NativeOn NativeOf	Please refer to the command reference manual for a detailed explanation of the different printer operation in Native On and Native Off modes. Such changes include the allocated names of the memory modules, priority of heat over print speed, etc.
Media sensor master position	fVirtual fReal	Defines default position between sensor and printhead. For use with legacy systems and should not be needed except in specialist applications
Command Mode	Cmnd Std	Standard Mode. STX (Hex 02) and SOH (Hex01) commands operate as usual
	Cmnd AS4	"AS400" mode. The ~ character acts like the STX command making this mode idea for use on systems that cannot send unprintable character, such as AS/400 computer. See the command reference manual for full details
	CmnD RST	Raster Mode. For specialist applications
Adjustable Sensor Enable/Disable	AJSensOF	Adjustable sensor Off. The front, fixed sensor is used instead of the adjustable sensor.
	AJSensON	The rear, adjustable sensor is used to detect media. This sensor is standard on the CLP 7201e but optional on the CLP 7202e.
Voltage Setting	PE *.**V	Shows current value of see-through gap sensor. Adjust this using the upper adjustment screw and a small Phillips screwdriver. If you install just the liner material under the sensor (peel off one label) and adjust the voltage to approx. 3.0 volts for optimum operation.
	BL *.**V	Shows the current value of the black-line sensor. Adjust this using the middle screw and a small Phillips screwdriver.

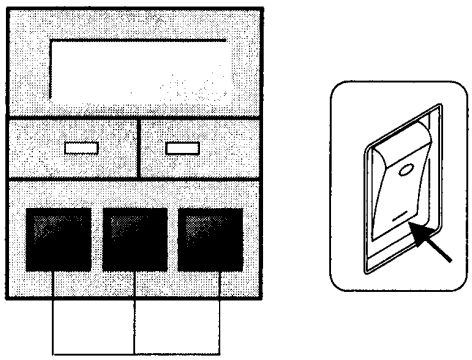
Note: When the printer is switched off and on, the initial values for these menu items selected by the system maintenance mode will be retrieved from the flash memory.



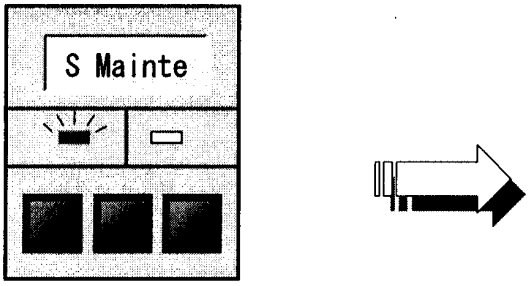
6 Returning to Factory Setting

To return all the contents already made in the printer configuration setting mode or system maintenance mode to the factory setting, proceed as follows:

First turn OFF the power switch, then press and hold the PAUSE, FEED and STOP keys simultaneously and at the same time turn ON the power switch, and continue holding down those keys.



Turn ON the power switch while holding down those keys simultaneously



A 'Pi' sound is heard. Continue holding down those keys

When a 'Pi' sound is heard again, the operation is completed

Factory setting

Printer configuration setting mode		System maintenance mode	
Item	Indication	Item	Indication
Printing method	Transfer	Baud rate	9600bps
Operation after printing	NoAction	Data length	8 bits
Media sensor	Edge	Native	NativeON
Print density	Heat 10	Feed amount	f Virtual
Printing speed	Pspeed 6	Command code	Cmnd STD
Feed speed	Fspeed 7	Adjustable sensor	AJSensOF
Back-feed speed	Bspeed 4	Voltage setting	PE *.**V
Print start position	V 0.00in	—	—
Column offset	H 0.00in	—	—
Media stop position	S 0.00in	—	—
Command overriding	SetLckOF	—	—

Chapter 3

Media and Ribbon

1 Kinds of Approved Media

2 Configuration of Approved Media (When Using Front Sensors)

3 Configuration of Approved Media (When Using Adjustable Sensor)

4 Media Setting

5 Kinds of Approved Ribbons

6 Ribbon Setting

1 Kinds of Approved Media

	Item	Specification	
Kinds of media	• Thermal-transfer media • Direct-thermal media	When choosing media, make sure that these are high-quality. Otherwise, the print quality and life of the printhead will not be guaranteed.	
Types of media	• Labels (continuous, die-cut, or fanfold) • Tags • Tickets	Both inward-wound and outward-wound roll media can be used.	
Size of media	Media width	25.4–118 mm	1–4.65 in
	Media thickness	0.0635–0.254 mm	0.0025–0.01 in
	Max. outer diameter of roll media	203 mm	8 in
	Media core inner diameter	38–76 mm	1.5–3 in

2 Configuration of Approved Media (When Using Front Sensors)

The front sensors consist of the transparent and reflective type photosensors that detect the position of the labels or tags:

Transparent type photosensor: Detects gaps between labels and notches of tags.

Reflective type photosensor: Detects black marks.

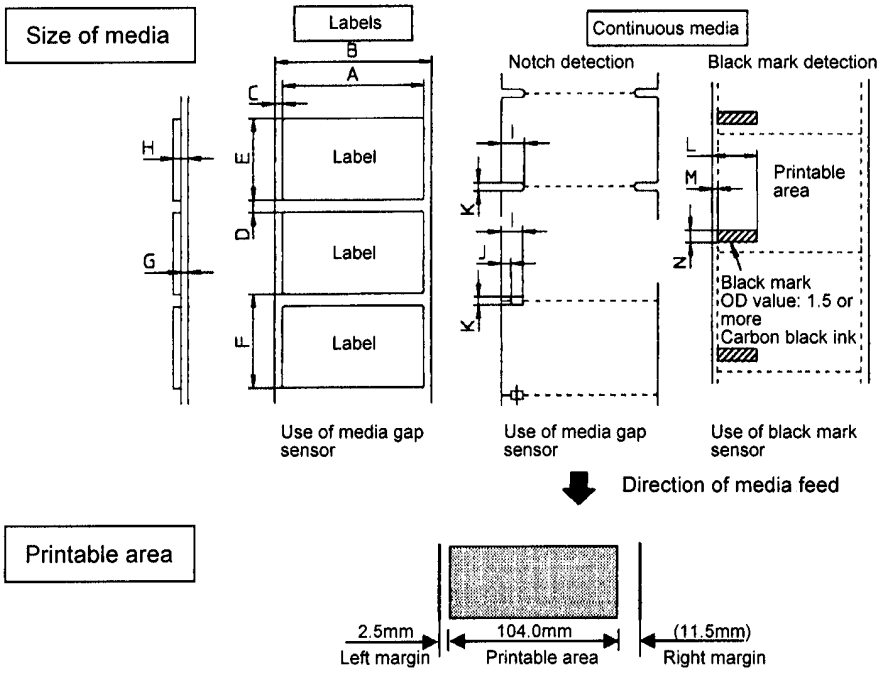
Note: Make sure that the adjustable sensor is set to 'AJSensOF.' (See Chapter 2.)

- **Dimensions of media**

For gaps between labels, notches of tags (labels) and black marks, see the size of media below.

		Minimum value mm (in)		Maximum value mm (in)	
A	Label width	7.62	(0.3)	118.00	(4.65)
B	Liner width	25.40	(1.0)	118.00	(4.65)
C	Left end of label	0		2.54	(0.10)
D	Gap between labels	2.54	(0.10)	2539.00	(99.96)
E	Label length	2.54	(0.10)	2539.00	(99.96)
F	Label pitch	5.08	(0.20)	2539.00	(99.96)
G	Liner thickness	0.06	(0.0025)	0.125	(0.0049)
H	Media thickness	0.06	(0.0025)	0.25	(0.01)
I	Right end of notch	8.3	(0.32)	11	(0.43)
J	Left end of notch	0		4.7	(0.19)
K	Notch length	2.54	(0.10)	17.80	(0.70)
L	Right end of black mark	15.00	(0.59)	—	
M	Left end of black mark	0		1.5	(0.06)
N	Black mark width	3.18	(0.125)	17.80	(0.70)

Note:
- Media having both gaps between labels and black marks should use the media gap sensor.
- Fanfold media must should use the media gap sensor.

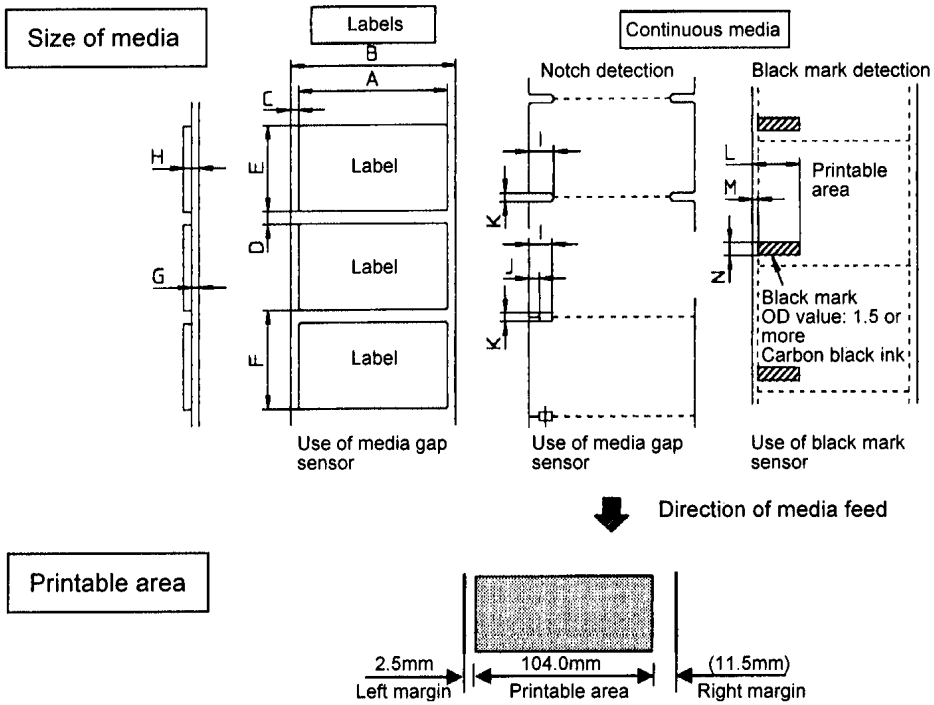


3 Configuration of Approved Media (When Using Adjustable Sensor)

The adjustable sensor is the standard for CLP-7201e but it is the optional for CLP-7202e. Make sure that the adjustable sensor is set to 'AJSensON.' (See Chapter 2.)

		Minimum value mm (in)		Maximum value mm (in)	
A	Label width	25.24	(1.0)	118.00	(4.65)
B	Liner width	25.24	(1.0)	118.00	(4.65)
C	Left end of label	0		2.54	(0.10)
D	Gap between labels	2.54	(0.10)	2539.00	(99.96)
E	Label length	12.70	(0.50)	2539.00	(99.96)
F	Label pitch	12.70	(0.50)	2539.00	(99.96)
G	Liner thickness	0.05	(0.0025)	0.125	(0.0049)
H	Media thickness	0.05	(0.0025)	0.25	(0.01)
I	Right end of notch	3.6	(0.14)	60.8	(2.39)
J	Left end of notch	0		57.2	(2.25)
K	Notch length	2.54	(0.10)	17.80	(0.70)
L	Right end of black mark	15.00	(0.59)	66.5	(2.62)
M	Left end of black mark	0		51.5	(2.02)
N	Black mark width	3.18	(0.125)	17.80	(0.70)

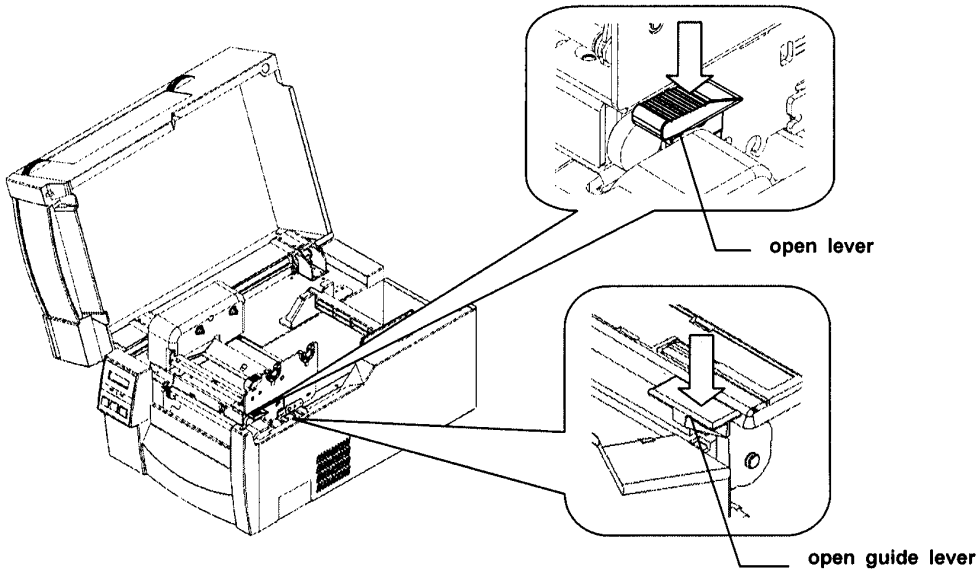
Note:
- Media having both gaps between labels and black marks should use the media gap sensor.
- Fanfold media should use the media gap sensor.



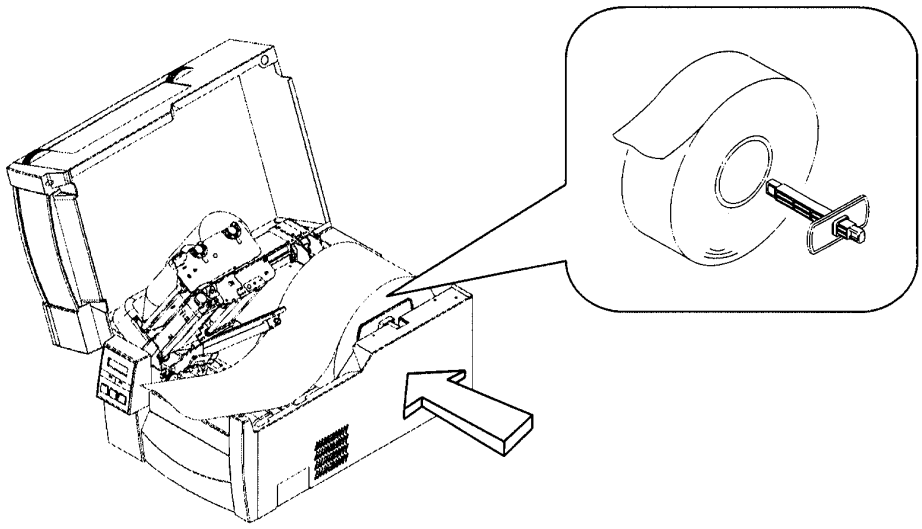
4 Media Setting

The printer is designed to easily load media. Open the printer cover and set media in the following:

1. Push down the open lever to open the printhead.
2. Push down the open guide lever to lift the open guide up.



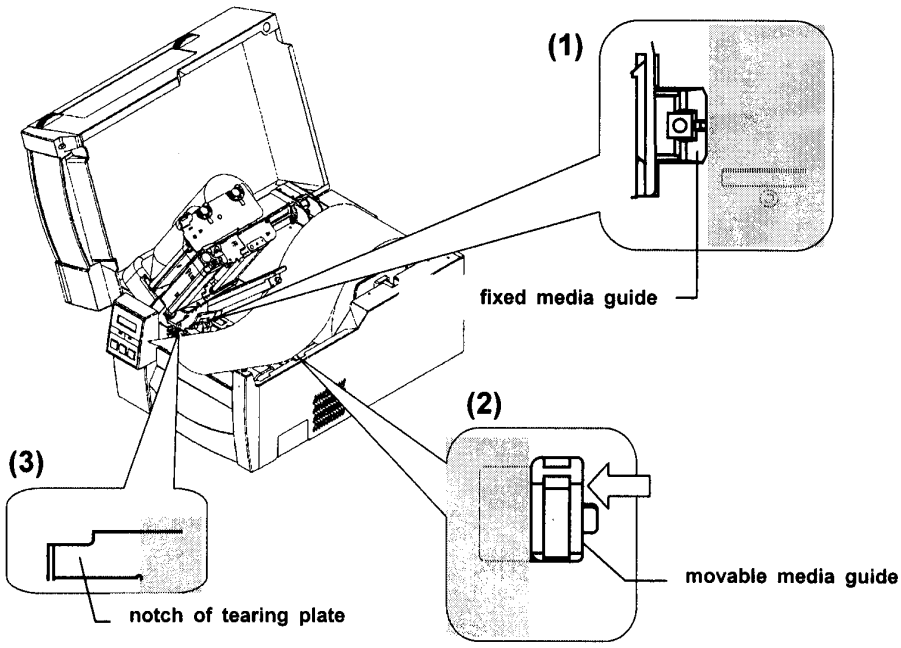
3. Insert the roll holder with the roll guide in the core of roll media. Load this onto the media holder and push against the left side wall and secure roll media.



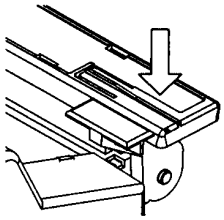
CAUTION

Be careful of the edges of the plates so injury or property damage is possible.

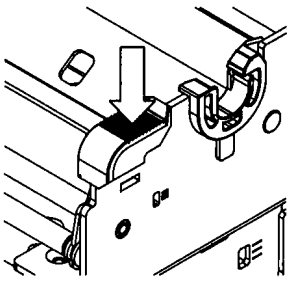
4. (1) Push media against the fixed media guide on the left side.
   (2) Guide media positively with the movable media guide.
   (3) Align the left top edge of media with the notch of the tearing plate.



5. Holding media so as to ensure it cannot skew, push down the open guide to close it.



6. Push down the green part of the push button to close the printer mechanism; at this time, continue pushing until it clicks closed.



Note: Make sure the green part of the push button is pressed properly. Otherwise, the printer mechanism may fail to close.

7. Close the printer cover.

8. Turn ON the power switch of the printer. The LCD screen on the control panel will show 'On Line.' Then press the FEED key and media will advance to the next label position and stop.

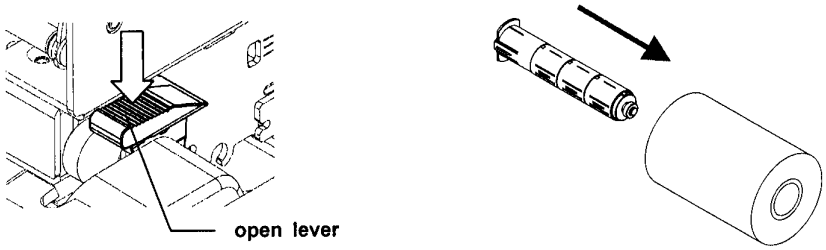
5 Kinds of Approved Ribbons

	Item	Specification	
Kinds of ribbons	This printer uses a solid ink ribbon.		
	• Wax	Multipurpose ribbon.	
	• Wax resin	Multipurpose, high-quality ribbon.	
	• Resin	Special ribbon with weather resistance. When using this type, set the print speed slower and the printing energy greater.	
Types of ribbons	Both inward-wound and outward-wound ribbons can be used.		
Size of ribbons	With a single roll of ribbon (360 m), about two rolls of media with outer diameter of 203 mm (8 in) can be used for printing.		
	• Ribbon width Note: Recommended ribbon width: ±10% of width of media used	25.4–114 mm	1–4.5 in
	• Max. length	360 m	1,181 feet
	• Max. outer diameter	74 mm	2.91 in
	• Media core inner diameter	25.4 ± 0.254 mm	1 ± 0.01 in

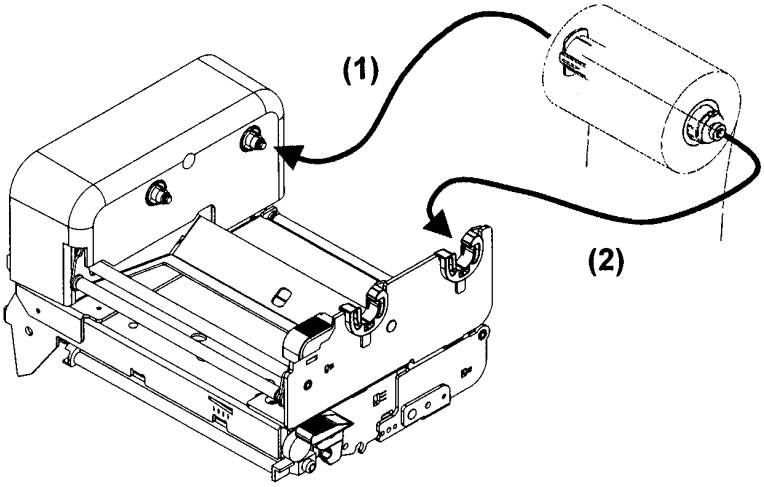
6 Ribbon Setting

This printer is designed for easy ribbon loading. Open the printer cover and install the ribbon as follows:

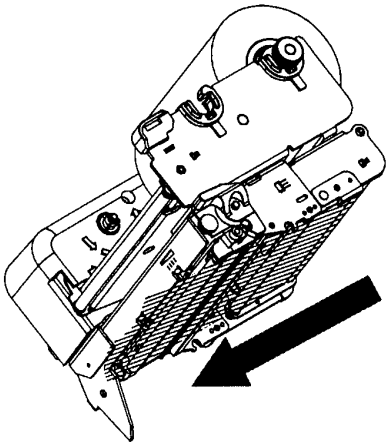
1. Push down the open lever to open the printhead.
2. Insert the ribbon shaft in the core of ribbon so that it is in its deepest position.



3. Set the ribbon holder on the transfer mechanism.



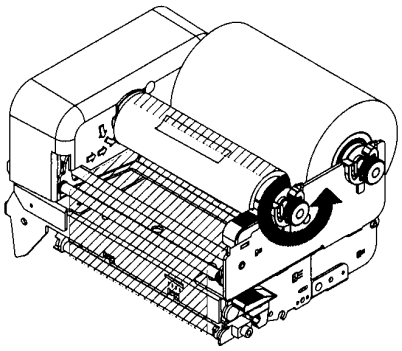
4. Pull the ribbon from under the transfer mechanism to the ribbon winding side.



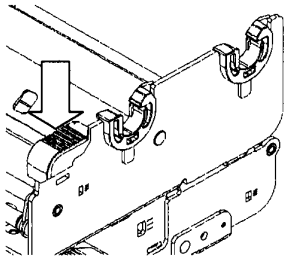
CAUTION

Be careful of the edges of the plates so injury or property damage is possible.

5. Wind the ribbon being pulled out around the ribbon holder and fix it to the core with adhesive tape. Set the ribbon holder on the transfer mechanism. Then turn its knob in the direction of arrow to remove the slack or wrinkle of the ribbon. Also any slack or wrinkle of the ribbon must be removed from the bottom of the transfer mechanism.



6. Push down the green part of the push button to close the printer mechanism until it clicks.



CAUTION

Make sure the green part of the push button is pressed properly. Otherwise, the printer mechanism may fail to close.

7. Close the printer cover.

8. Turn ON the power switch of the printer. The LCD screen on the control panel will show 'On Line.' Then press the FEED key and media will advance to the next label position and stop.

Chapter 4

Printer Adjustments

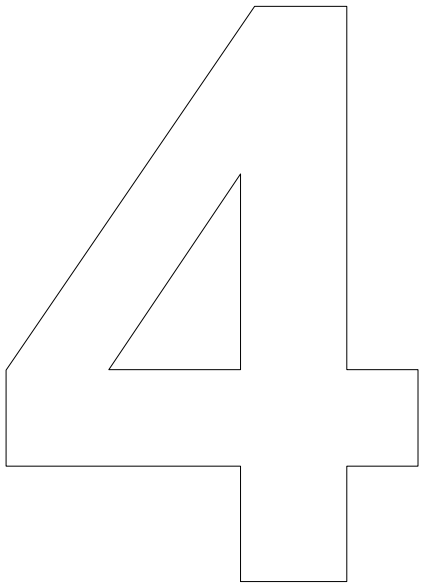
1 Use of Media Other Than the Recommended (Printhead Offset Adjustments - Media Thickness Adjustments)

2 Use of Narrow Media/Ribbons (Printhead Pressure Adjustments)

3 Use of Narrow Media/Ribbons (Ribbon Tension Adjustments)

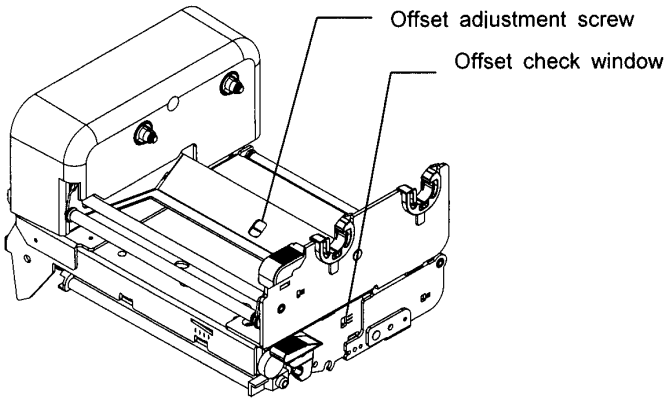
4 Adjustable Sensor (For CLP-7201e)

5 Cleaning



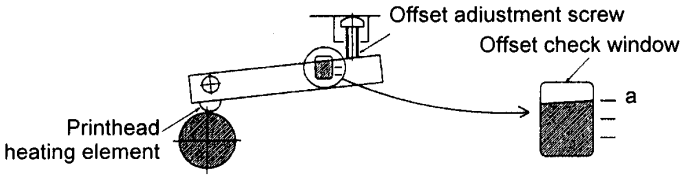
1 Use of Media Other Than the Recommended (Printhead Offset Adjustments - Media Thickness Adjustments)

The printer is already factory-set to the requirements of proper print quality while using the recommended labels. If the print quality is inferior because of the different type of media, adjust the printhead offset in the following manner:

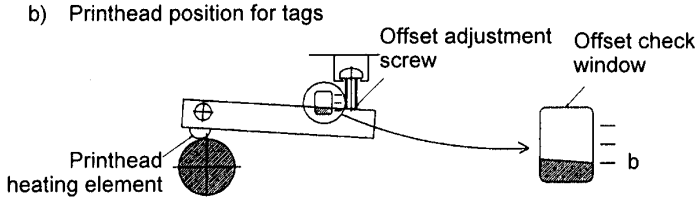


The relationship between the printhead heating element and the offset check window is shown below:

a) Printhead position for labels



b) Printhead position for tags



(a) When using standard labels, or thermal media

(1) Looking in at the offset check window, reset the printhead offset so that it comes to the center line (middle of the three lines) by turning the offset adjustment screw with a screwdriver.

Then turn the offset adjustment screw two to four times counterclockwise with a screwdriver. (Factory setting: two turns.)

(2) Make fine adjustments by checking the self-test print.

(b) When using thick media (tags or other media)

(1) Looking in at the offset check window, reset the printhead offset so that it comes to the center line (middle of the three lines) by turning the offset adjustment screw with a screwdriver.

(2) Then turn the offset adjustment screw two to four times clockwise with a screwdriver.

(3) Make fine adjustments by checking the self-test print.

2 Use of Narrow Media/Ribbons (Printhead Pressure Adjustments)

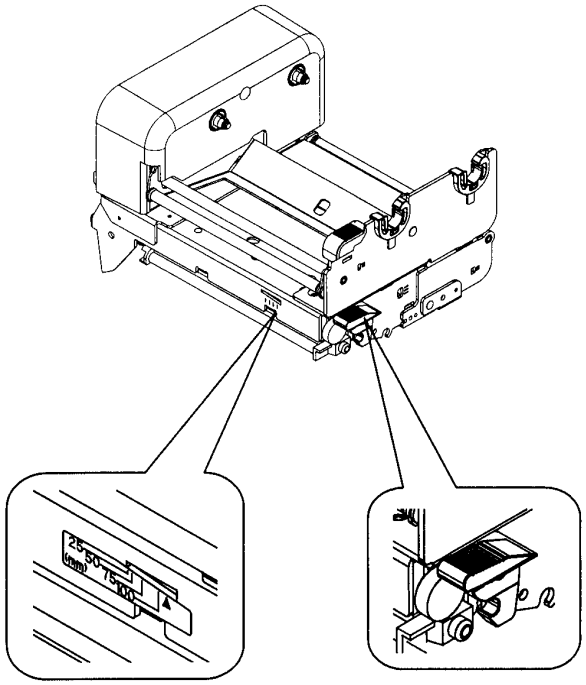
The printer is already factory-set to the value of media width: 112 mm (4.4 in). When you use narrow media, adjust the printhead pressure in the following:

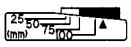
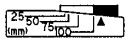
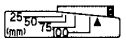
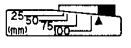
1. Looking in at the check window on the upper frame, align the mark (the left end of white plastic) with the width of media by turning the printhead pressure adjustment knob. (The printhead must be closed.)

2. Make fine adjustments by checking the self-test print.

(a) When the print on right side is too light:
Move the mark (white) to the right side by turning the printhead pressure adjustment knob clockwise.

(b) When the print on the left side is too light:
Move the mark to the left side by turning the printhead pressure adjustment knob counterclockwise.

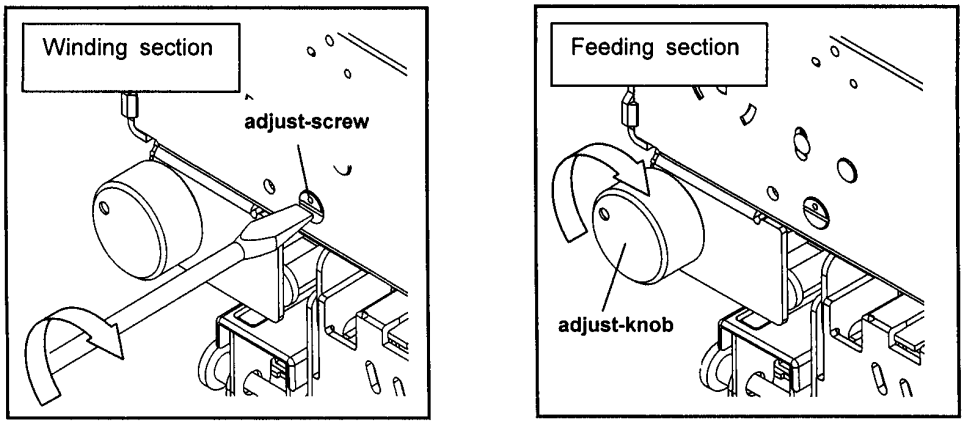


Check window	Width of media	
	25.4 mm	1 in
	50.8 mm	2 in
	76.2 mm	3 in
	101.6 mm	4 in
	When ribbon wrinkles or media skews with media width of 4 in or more	
	Factory setting	

3 Use of Narrow Media/Ribbons (Ribbon Tension Adjustments)

Ribbon tension of this printer is already adjusted to the recommended ink ribbon and media. Ribbon and media, however, may slip due to imperfect combination of ink ribbon and media, where a message 'RibonOut' will be shown on the LCD display. To resolve this problem and obtain the optimum printing condition, make adjustments in the following manner (this should be done after the printhead pressure adjustments on the previous page are made):

1. Adjusting Places

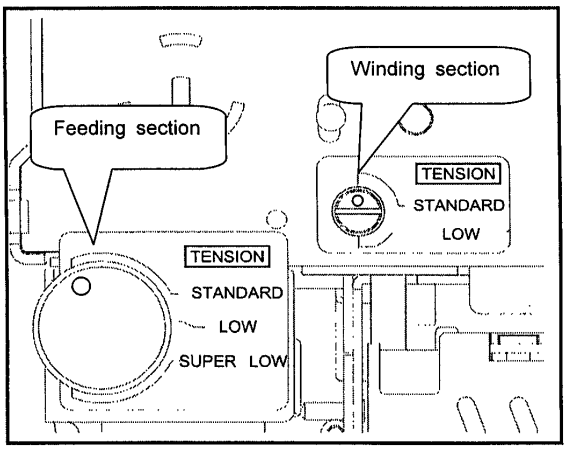


When turning adjust-screw on winding section, use a flat-tip screwdriver.

2. Adjusting Method

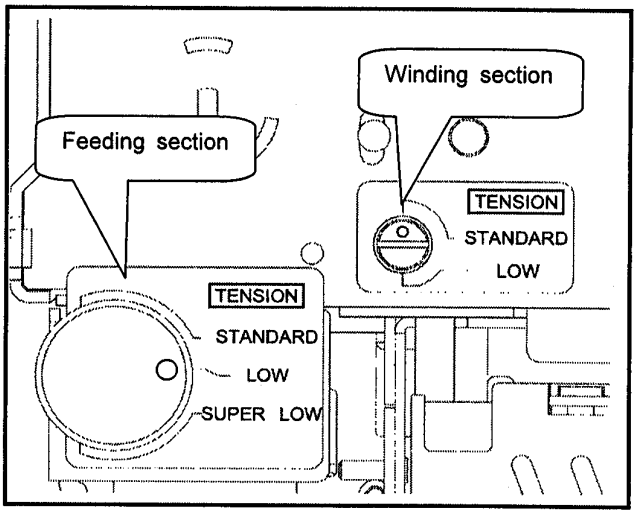
(1) General ribbon and media

Factory setting: both marks on winding and feeding sections are set to **STANDARD** so as to obtain the optimum printing condition for the recommended ink ribbon and media.



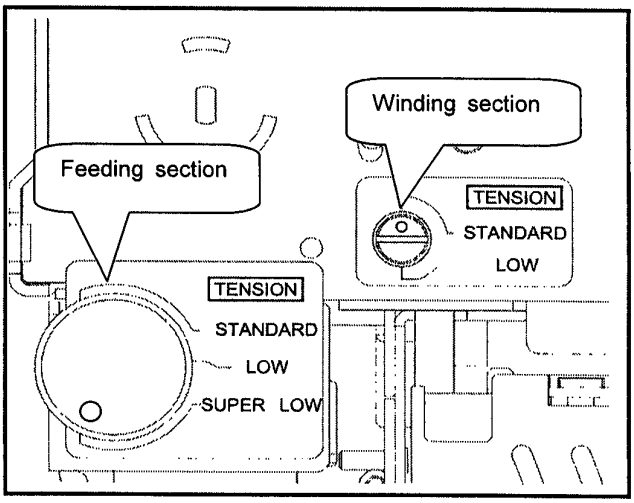
(2) Easy-to-slip ribbon and media

If a message 'RibonOut' is shown, set the mark on the feeding section to **LOW** by turning the adjust-knob.



(3) Especially-easy-to-slip ribbon and media

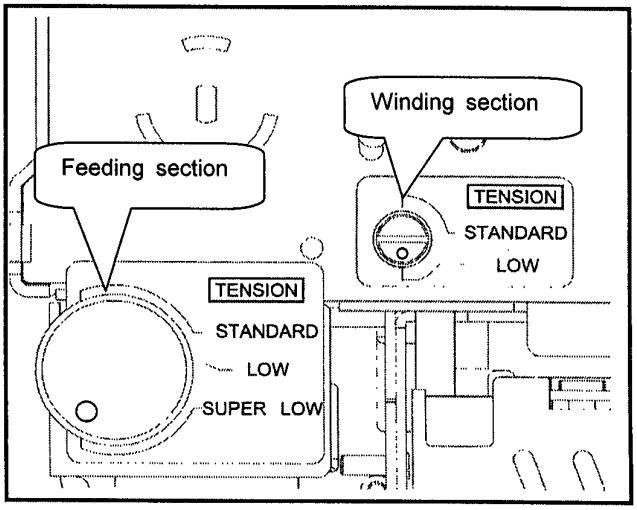
If a message 'RibonOut' is still shown, although Step (2) has been performed, set the mark on the feeding section to **SUPER LOW** by turning the adjust-knob.



(4) When ribbon is broken during printing

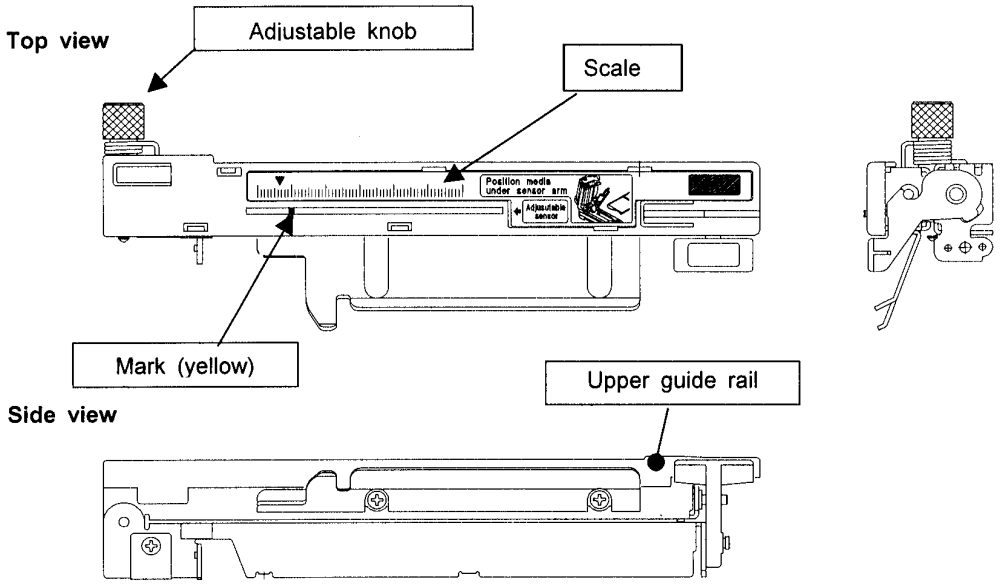
Ribbon may be broken if it is narrow in width and printhead heat temperature is high. In that case, set the mark on the feeding section to **SUPER LOW** and set the mark on the winding section to **LOW** by turning the adjust-knob and adjust-screw respectively.

Note: If the problem is still not resolved, please contact our service personnel.



4 Adjustable Sensor (For CLP-7201e)

Note: The adjustable sensor is optional for CLP-7202e.

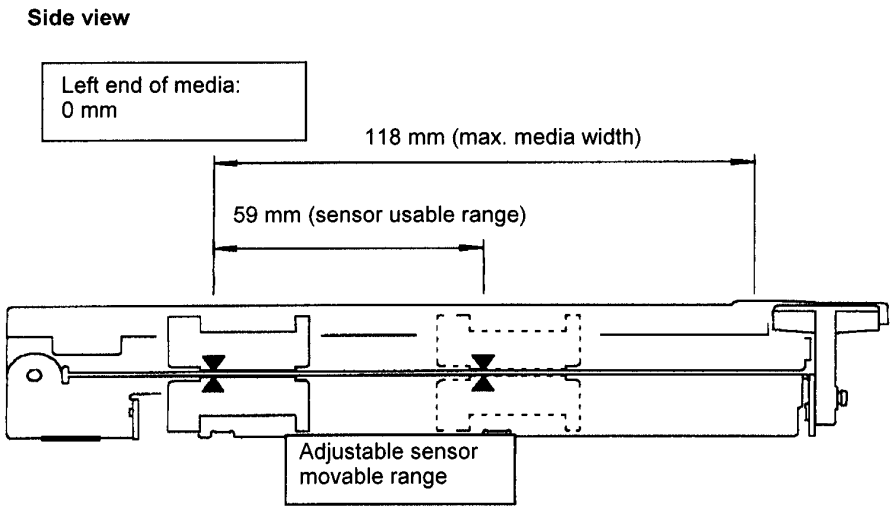


Operating procedure

1. Measure your required detection position beforehand, using the scale on the upper guide rail. Move the adjustable sensor to the required detection position by tuning the adjustable knob; it is useful to align the mark (yellow) on the top of the adjustable sensor with the scale showing the required detection position.
   For the movable range of the adjustable sensor, see figure below.

2. Set media with liner. Then close the upper guide rail and set the voltage to 3V.

Note: For voltage setting, see Section 5 System Maintenance Mode, Chapter 2.



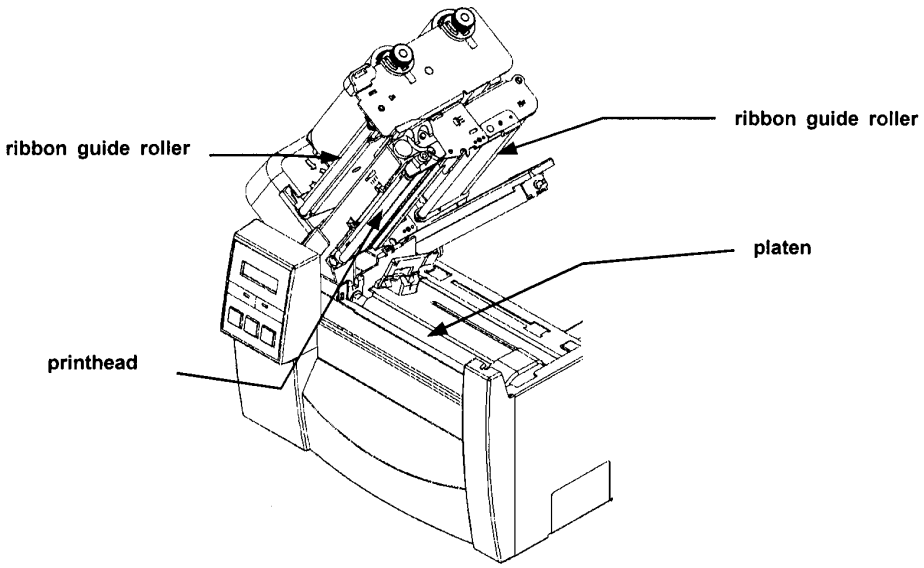
5 Cleaning

Wipe off any foreign matter such as ribbon or media dust, dirt and adhesive substances built up around the printhead, ribbon guide roller, platen etc with the accessory thermal head cleaner or a soft cloth soaked in ethyl alcohol. It is particularly important to clean the printhead after printing on thermal media for long periods, which will guarantee the print quality and extend the life of the printhead.

Note: Always use the thermal head cleaner when cleaning the printhead.

CAUTION

Do not use any solvent other than ethyl alcohol. Solvents such as benzene, acetone and thinner will dissolve plastic parts and destroy the printhead, platen and much of the printer!



Chapter 5

Troubleshooting

1 Error Messages

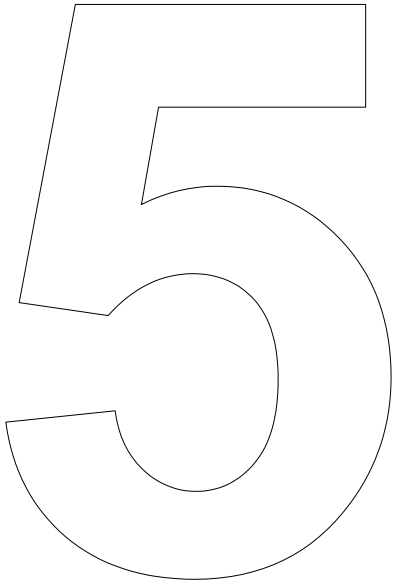
2 Power Troubleshooting

3 Media Feed Troubleshooting

4 Ribbon Feed Troubleshooting

5 Print Troubleshooting

6 Interface Troubleshooting



1 Error Messages

When there is a problem with the printer:

- A buzzer sounds.
- The error indicator lights up.
- An error message is shown on the LCD screen.

Errors and corrective actions are shown below.

1 Errors indications

Description	Indication	LED	Buzzer
Printhead temperature low	ColdHead	Lights	Sounds long
PCB temperature low	Cold PCB	Lights	Sounds long
Printhead resistance value abnormal (error contents and printhead information repeatedly displayed) Rank: Rank of printhead resistance value Average: Average of resistance values (A/D reading value in decimal system) Maximum: Max. resistance value Minimum: Min. resistance value	Head Err Rank *** Ave.*** Max.*** Min.***	Lights	Sounds long
Communication error (receive buffer overrun)	OverFlow	Lights	Sounds long
Communication error (parity, framing)	S/I Err	Lights	Sounds long
Communication error (transmit buffer overflow)	HostBusy T.D.Full	Blinks	Sounds short 3 times
Pause key pressed	Pause	– –	– –
Pause command reception (remote control)	Pause	– –	– –
Printhead overheat	OverHeat Cooling	Blinks	Sounds short 3 times
Stop key pressed	Stop	– –	Sounds short 3 times
Stop command reception (remote control)	Cancel	– –	– –
Printhead mechanism open	HeadOpen	Lights	Sounds short 3 times
Paper end (paper out)	PaperEnd	Lights	Sounds short 3 times
Paper out (paper position cannot be detected) (error contents and sensor information repeatedly displayed) M command: Sets length for detection miss checking with system command M Maximum: Max. value of sensor reading voltage Minimum: Min. value of sensor reading voltage	PaperErr M CMMD Max*.**V Min*.**V	Lights	Sounds short 3 times
Ribbon end	RibonOut	Lights	Sounds short 3 times
PCB overheat (PCB or sensor abnormal)	OverHeat	Lights	Sounds short 3 times
Fan stop	Fan stop	Blinks	Sounds short 3 times
Option board abnormal	OP Err	Lights	Sounds short 3 times
Auto-cutter abnormal□(such as poor engagement)	Cut Err	Lights	Sounds short 3 times
ROM checksum error	ROM Err	Lights	Sounds long
RAM check error	RAM Err	Lights	Sounds long

2 Errors and corrective actions

Indication	Description	Corrective actions
ColdHead	Printhead temperature low	Automatically returned after displaying the error for a certain period. Raise the temperature around the printer. Print density becomes low and print quality becomes inferior when the printhead temperature is low.
Cold PCB	PCB temperature low	Automatically returned after displaying the error for a certain period. Raise the temperature around the printer. Print density becomes low and print quality becomes inferior when the printhead temperature is low.
Head Err	Printhead resistance value abnormal	Check the contents and clear with the Stop key. Replace the printhead. Print quality is affected at the section where the printhead resistance value is abnormal.
OverFlow	Communication error (receive buffer overrun)	Check the contents and clear with the Stop key. Correct the communication control system or communication cable abnormalities.
S/I Err	Communication error (parity, framing)	Check the contents and clear with the Stop key. Correct the communication parameter or communication cable abnormalities.
HostBusy T.D.Full	Communication error (transmit buffer overflow)	Automatically returned if the computer receives data and the buffer becomes empty.
Pause	Pause key pressed	Pressing the Pause key again resumes printing. If the Stop key is pressed, the stored printing contents are discarded and 'On Line' turns on.
Pause	Pause command reception (communication control)	Same as above.

(continued)

Indication	Description	Corrective actions
OverHeat Cooling	Printhead overheat	Wait until the printhead temperature goes down. When the temperature becomes low, the remaining printing resumes.
Stop	Stop key pressed	Enters a pause after displaying 'Stop' by the Stop command. If the Pause key is pressed, the printing will resume. If the Stop key is pressed again, the stored printing contents are discarded and 'On Line' turns on.
Cancel	Stop command reception (communication control)	Displays 'Stop' by the stop command, discards the remaining printing contents, and enters pause. If the Pause key is pressed, 'On Line' will turn on.
HeadOpen	Printhead mechanism open	Close the printhead mechanism.
PaperEnd	Paper end (paper out)	Load media.
PaperErr	Paper out (paper position cannot be detected)	Check the contents and clear with the Stop key. Correct the faulty setting of the media detection (media gaps, black marks, continuous media). Correct the faulty parameter for media (max. length, continuous media). Adjust the sensor or change to the media that can accept the media position detection. Specify the detection miss checking length with the M command. When the media position cannot be detected during feeding by the specified length, it is judged error. Generally specify the length about three times the label length. In case of continuous media, specify the label length with the C command. Difference between the maximum and minimum values of the sensor reading voltage must be 0.8 V or more. Sensor adjustments and check of media characteristic (voltage checking) can be performed with the Maintenance mode.

Indication	Description	Corrective actions
RibonOut	Ribbon end	Check the contents and clear with the Stop key. Install the ribbon. Check that ribbon winds properly. Correct the faulty setting of the print mode (direct-thermal or thermal-transfer).
OverHeat	PCB overheat	Turn off the power and reset the printer. If this recurs, contact our service personnel.
Fan stop	Fan stops	Check for fan stop caused by the problems such as foreign matter in the air vent. Automatically returned if the fan turns again. If disassembling is needed to remove foreign matter or the problem cannot be resolved, contact our service personnel.
OP Err	Option board abnormal	Turn off the power and reset the printer. If this recurs, contact our service personnel.
Cut Err	Auto-cutter abnormal (such as poor engagement)	Check the contents and clear with the Stop key. If this cannot be cleared, turn off the power and remove foreign matter from the auto-cutter. If this recurs, contact our service personnel.
ROM Err	ROM checksum error	Turn off the power and reset the printer. If this recurs, contact our service personnel.
RAM Err	RAM check error	Turn off the power and reset the printer. If this recurs, contact our service personnel.
– –	System error (such as timer or CPU malfunction)	First protect the system, then turn off the power and reset the printer. If this recurs, contact our service personnel.

2 Power Troubleshooting

Problem	Cause and remedy
No power even with power switch turned ON.	• Power cord is not properly connected to the outlet. → Turn off the power switch and reconnect the power cord to the outlet properly. • Power cord is not properly connected to the power inlet. → Turn off the power switch and reconnect the power cord to the power inlet properly. • Input voltage is not correct; input voltage is greater or less than the rated voltage. → Set input voltage within the rated voltage (puncture voltage may occur. Contact our service personnel). • Correct RS-232C cable is not used. → Turn off the power switch and unplug the interface cable. Check that power is provided by turning on the power switch and use the correct RS-232C cable.

3 Media Feed Troubleshooting

Problem	Cause and remedy
Media does not feed.	• Wrong media path. → Use correct path. (See Chapter 3) • Printhead mechanism is open. → Close the printhead mechanism.
Media skew.	• Edge of media is not in contact with the media guide. → Slightly push the media guide to the edge of media. (See Chapter 3) • Roll guide is not in contact with the roll media. → Slightly push the roll guide to the roll media. (See Chapter 3) • Printhead pressure is not correct. → Adjust it with the offset adjustment screw according to the width of media. (See Chapter 4)
Media does not align with the print position.	• Setting mode is not correct. → Check whether the setting mode is for media gap or black mark sensor and if it is not, change it. (See Chapter 2) • Media gap (black mark) sensor adjustment failure. → Adjust the voltage of media gap or black mark sensor from the voltage setting in the system maintenance mode. (See Chapter 2) • Transfer data is abnormal. → If the contents of the transfer data are incorrect, set them properly again.

4 Ribbon Feed Troubleshooting

Problem	Cause and remedy
Ribbon does not wind.	• Wrong ribbon path. → Use correct path. (See Chapter 3) • Ribbon winding direction is reversed. → Set it properly. (See Chapter 3) • Ribbon holder and winder tension is not correct. → Set it properly. (See Chapter 3) • Ribbon and media are not proper. → Contact our service personnel.
Ribbon wrinkles.	• Ribbon holder and winder tension is not correct. → Set it properly. • Print density (heating factor) is not correct. → Correct the parameter of the Hnn command in the printing contents definition mode. (See Appendixes) • Angle of ribbon guide bar is not correct. → Contact our service personnel to adjust the ribbon guide bar. • Printhead pressure doesn't match media width. → If not, the ribbon may wrinkle. Adjust printhead pressure with the adjustment screw. (See Chapter 4) • Ribbon and media are not proper. → Contact our service personnel.

5 Print Troubleshooting

Problem	Cause and remedy
Printing does not start.	• Power to the printer is not turned on. → Turn on the power switch. If power is not provided, follow the descriptions on Section 2: Power Troubleshooting, Chapter 5. • Printer is not properly connected to the computer. → Turn off the power switch and connect it properly. (See Chaper 1) • Printer configuration setting is not proper. → Correct the printer configuration setting. (See Chaper 2)
Missing lines.	• Printhead connector connection fails. → If the printhead connector is not connected properly, insert it properly.
Dropouts.	• Printhead is dirty. → Check that the area around the printhead heating element is not dirty. If dirty, clean it with the printhead cleaning pen or a soft cloth soaked in ethyl alcohol etc. (See Chaper 4) • Platen is dirty. → Remove labels, ribbons or media dust, dirt etc built up around the platen. (See Chaper 4) **Note:** If those cannot be removed, contact our service personnel.
Print is too light or dark.	• Ink ribbon and media are not the recommended type. → Change to the recommended type after checking the maker and model serial number of the ink ribbon and media. • Media quality doesn't match the printhead offset. → Adjust the printhead offset. See Section 1: Printhead Offset Adjustments, Chapter 4. • Media width doesn't match the printhead pressure. → Adjust the printhead pressure. See Section 2: Printhead Pressure Adjustments, Chapter 4. • Printer configuration setting mode is not correct. → Check whether the printer configuration setting mode is for direct-thermal or thermal-transfer printing, and change it as necessary. (See Chaper 2) • Printing energy setting level is not proper. → Check the set value of the printing energy level, and adjust it as necessary. (See the Command Reference separately available)
Other printing abnormalities	• Check the error message on LCD screen and correct it according to the descriptions on Section 1: Error Messages, Chapter 5.

6 Interface Troubleshooting

Problem	Cause and remedy
Printer does not print. Print corrupted or disordered. Error message is displayed and printer doesn not print.	The following may be probable causes: • Interface cable is not properly connected. → Check that the interface cable is connected properly. • Interface cable is not the standard type. → Replace it. • Communication parameter setting is not correct. → Set the system maintenance mode from the control panel and check/correct the communication parameter value. (See Chapter 2)

Appendixes

1 Options

2 Specifications

APPENDIXES

1 Options

● Factory and dealer (reseller) options

1. Auto-Cutter			
Specifications	Cutting method	Rotary cutter	
	Max. thickness of cut media	0.25 mm	0.01 in
	Min. length of cut media	25.4 mm	1.0 in
Remarks	For details, see the user's manual of the auto-cutter.		

2. Peeler			
Specifications	Width of media	25.4－118 mm	1－4.65 in
	Max. diameter for roll media	203 mm	8 in
	Inner diameter for roll media	76 mm or more	3 in or more
	Min. length of label	25.4 mm	1 in
	Thickness of media	Max. 0.17 mm	Max. 0.0067 in
	Thickness of liner of label	Max. 0.07 mm	Max. 0.0027 in
	Unusable media	Special media (Whitepet etc.) or too flexible media causing jams	
Remarks	For details, see the user's manual of the peeler.		

3. Adjustable sensor
Note: The adjustable sensor is optional for CLP-7202e.

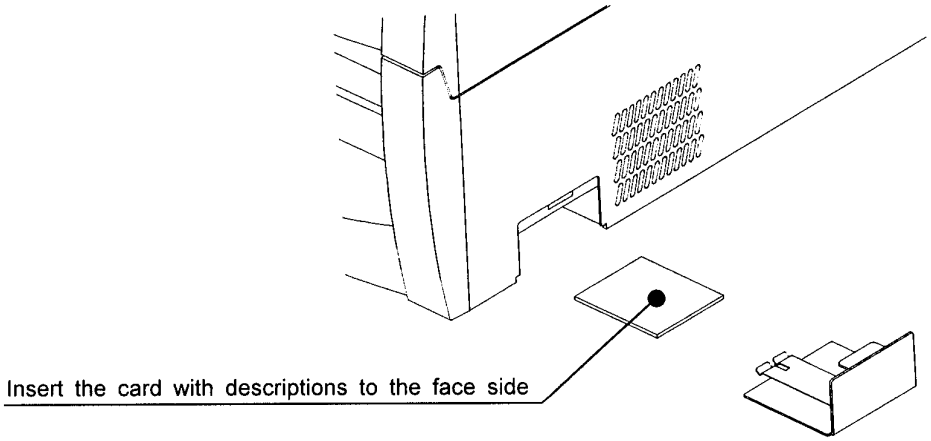
● User options

4. PCMCIA Memory Card			
Description	Card type	PCMCIA Type I flash memory card	
	PCMCIA memory card applications	Storing print format files	Data in the field register area can be stored and loaded
		Storing graphic data	Graphic data such as a corporate logo can be stored and recalled from the PCMCIA memory card and combined with field data and printed
		Storing downloaded fonts	Downloaded HP Soft fonts can be stored

Note: Some versions of this printer have flash memory installed on the main PCB as standard. You may not need to use a PCMCIA card in this case. Please contact the dealer from where you purchased the printer for further details.

Installation

1. Turn OFF the power switch of the printer.
2. Remove the PCMCIA memory card cover at the bottom of the printer (see figure).
3. Insert the memory card.
4. Replace the PCMCIA memory card cover.



⚠ CAUTION

- Before use, carefully read and understand the instructions regarding the PCMCIA memory card.
- Do not insert or remove the PCACIA memory card before the power to the printer is turned off.
- Always close the PCMCIA memory card cover to keep out foreign matter such as particles of dust.
- If the PCMCIA memory card write failure occurs, check it with the test command (STX.w).

2 Specifications

● Main Specifications

Item		CLP-7201e/7202e	
Printing	Resolution	Main scanning line density: 203 dots/in (8 dots/mm)	
		Sub-scanning line density: 203 dots/in (8 dots/mm)	
	Printing method	Direct-thermal or thermal-transfer printing	
	Max. print width	104 mm	4.1 in
	Max. print length	812.8 mm	32 in
	Print density	Adjustable with software	
Printing speed	Printing speed setting	2－7 in/sec in one-inch units	
Print mode	Batch mode	Performs normal printing (single or multiple sheets)	
	Peel mode	Peels labels from the liners after printing labels	
	Cut mode	Prints and cuts by the specified number of sheets (label back-feeding enabled)	
	Tear-off mode	Feeds back media to the print starting position after tearing media	
Media	Types of media	Roll or fanfold media (continuous labels, die-cuts, continuous tags or tickets)	
	Kinds of media	Direct-thermal or thermal-transfer media	
	Max. liner width	118 mm	4.65 in
	Min. liner width	25.4 mm	1 in
	Min. label width	7.62 mm	0.3 in
	Min. media pitch	5.08 mm	0.2 in
	Max. media thickness	0.254 mm	0.01 in
	Min. media thickness	0.0635 mm	0.0025 in
	On-board roll media diam.	Max. outer diam.: 203 mm Media core: 38–76 mm	8 in 1.5–3 in
Ribbon	Width	25.4–114 mm (1–4.5 in) freely adjustable	
	Length, max.	360 m	1,181 ft
	Max. outer diam.	74 mm	2.91 in
	Media core inner diam.	25.4 mm ±0.254 mm	1 in ±0.01 in

Item	Description		
Bar codes	Bar code on-board may vary depending on the model and destination. See the Command Reference for details		
	• CODE 3 of 9 • UPC-A • UPC-B • Interleaved 2 of 5 • CODE 128 • EAN13 • EAN8 • CASE CODE etc		
Fonts*	Font and size on-board may vary depending on the model and destination. See the Command Reference for details		
	• Fixed pitch font • OCR-A, B • CG Triumvirate, CG Triumvirate Bold • TrueType rasterizer		
Media detection sensors	Transparent-type sensor	Detects media gap between labels, tag notch and media out	
	Reflective-type sensor	Detects reflective mark on back of media and media out	
	Ribbon end sensor	Detects ribbon out and end (holder speed)	
	Label peeling sensor (optional)		
	Media top position (home position) adjustable with software		
Communication interface	Serial (RS-232C)		
	Parallel (IEEE1284 compatible and nibble modes)		
	USB (USB1.1)		
Indications, keys and switches	LEDs	Power and Error	
	LCD	Displays printer status, error contents, mode switch contents etc	
	Control keys	Pause, Feed and Stop	
	Mode switch	Switches between direct-thermal and thermal-transfer and sets parameters for communication etc	
	Head-up detection sensor	Detects head open	
	Power switch	Turns on or off the power	
Options	Factory Installed	Auto-Cutter or Label Peeler	
	User Installed	PCMCIA memory card	
Dimensions and weight	Height	251 mm	9.9 in
	Width	255 mm	10.0 in
	Depth	428 mm	16.9 in
	Weight	11.0 kg	24.2 lbs
Power	Voltage 120V system	120V -10%+6%, 2.5A, 60Hz (USA and Canada)	
	Voltage 220V system	220V - 240V -10%+6%, 1.2A, 50/60Hz (Europe)	

* Note: UFST™ and TrueType rasterizer are licensed from Agfa Corporation. UFST is a trademark of Agfa Corporation. TrueType is a trademark of Apple Computer.

Item	Description		
Standards	120V system	120V: U.S.A./ Canada	UL 1950
			CSA No. 950
			FCC Part 15 Subpart B class A
	230V system	220V–240V: Europe	EN 60950
			EN 55022 class A
			EN 55024
			EN 61000-3-2, 61000-3-3
Environment	Operating conditions	Temperature: 5–35°C (41–95°F) Humidity: 30–80% (non-condensing)	
	Storage	Temperature: -20–60°C (-68–140°F) Humidity: 5–85%	
	Ventilation	• Convection • Air vent be away from wall etc • Danger of smoke or fire	
	Dust	Free from conductive or corrosive matter	

● Interfaces

The printer is connected to a computer and prints labels according to the command from the computer. Two systems of interface connection to a computer are shown below.

1. Serial interface: RS-232C

System	Asynchronous serial interface RS-232C
Connector	DSUB 25-pin
Handshaking	XON/XOFF and CTS/DTR
Receive buffer size	32K bytes Receiving data stops when the receive buffer reaches 2K bytes and resumes receiving data when the receive buffer reaches 4K bytes
Baud rate	300, 600, 1200, 2400, 4800, 9600, 19200, 38400 bps
Bit length	7- or 8-bit
Stop bit	Fixed When printer is receiving data, stop bit is fixed at 1, and when printer is transmitting data, stop bit is fixed at 2. But computer can transmit or receive data, regardless of stop bit at 1 or 2
Parity	No

2. Parallel interface: IEEE1284 compatible and nibble modes

System	8-bit parallel
Connector	36-pin unphenol type
Synchronous system	Strobe pulse
Handshaking	ACKNLG and BUSY signals
Signal level	TTL

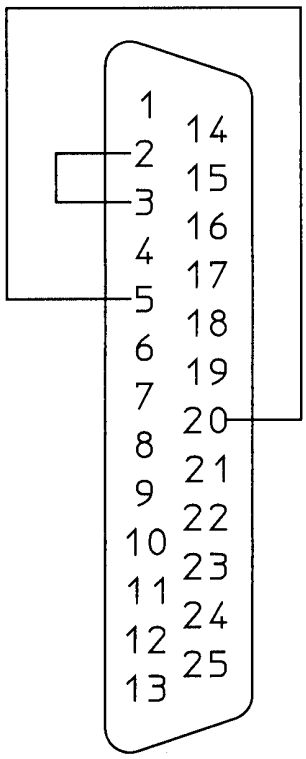
3. USB Interface

USB Interface	
Specifications	USB1.1

4. RS-232C loopback test

After connector wiring as shown in the figure, place the printer into self-test mode. The printer will receive data that has been transmitted by printer itself and the test of receiving and transmitting data will be performed.

RS-232C loopback test



5. RS-232C protocol

(1) X-ON/X-OFF system (see figure)

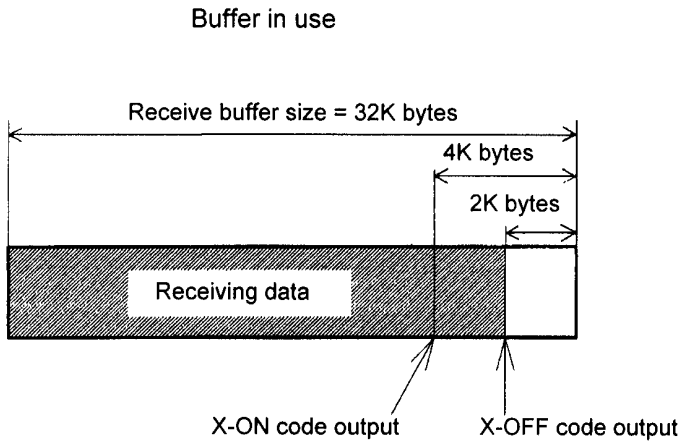
This is a control system in which the data transmitting request signal (X-ON (11H) code) and the data transmitting stop signal (X-OFF (13H) code) are output.

Requirements of output of X-ON code:

- When the power is switched to ON.
- When the receive buffer has less than 2K bytes available, the X-OFF code is output, and the receive buffer has at least 4K bytes available.

Requirements of output of X-OFF code:

- When the receive buffer has less than 2K bytes available.



Note: Even if each code is ready for output, the same code will not be transmitted twice successively (except when the power is turned on or the printer is reset from the control panel).

(2) Ready/Busy system (see figure)

This is a control system in which the DTR is output at Ready (High) or Busy (Low) level. The DTR, however, is always output at Ready (High) level except the following:

Requirements of output of DTR 'Low':

- When the receive buffer has less than 2K bytes available. When this condition is detected, the printer keeps a 'Low' level until the receive buffer has at least 4K bytes available.

6. Interface pin assignment

The serial and parallel pin assignment tables are shown below.

■ Serial interface pin assignment table

Pin No.	Signal	Input/Output	Description
1	F.GND	Output	Frame ground
2	TXD	Output	RS-232C output data
3	RXD	Input	RS-232C input data
4	RTS	Output	RS-232C (pull up to +5V with 2 KΩ)
5	CTS	Input	RS-232C data transmission on computer enabled
6	NC	–	Not connected
7	S.GND	Output	Signal ground
8	NC	–	Not connected
9	NC	–	Not connected
10	NC	–	Not connected
11	NC	–	Not connected
12	NC	–	Not connected
13	L.GND	Output	Control system ground
14	VCCs	Output	Control system power +5 V (max. service current 0.05A)
15	NC	–	Not connected
16	NC	–	Not connected
17	NC	–	Not connected
18	NC	–	Not connected
19	NC	–	Not connected
20	DTR	Output	RS-232C printer data receiving enabled
21	NC	–	Not connected
22	NC	–	Not connected
23	NC	–	Not connected
24	NC	–	Not connected
25	NC	–	Not connected

■ Parallel interface pin assignment table

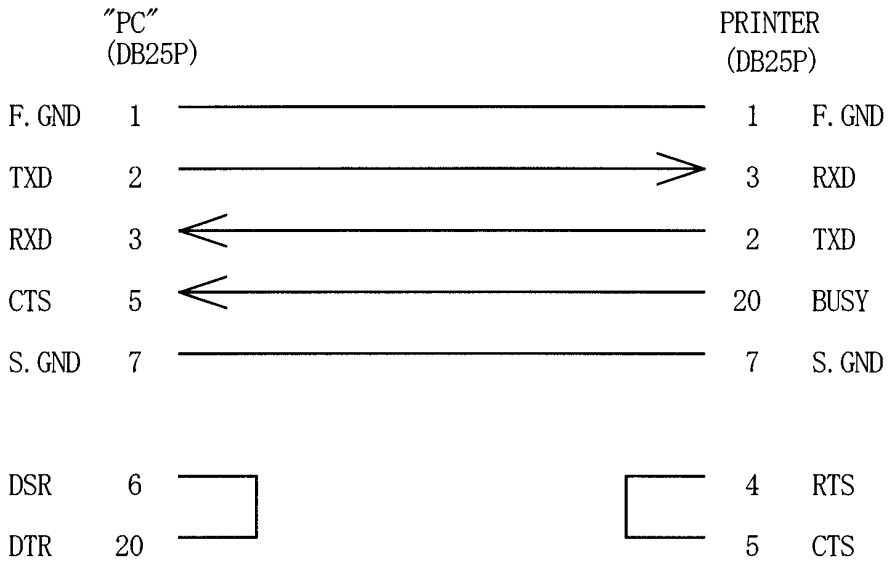
Pin No.	Signal	Input/Output	Description
1	$\overline{\text{STROBE}}$	Input	8-bit data reading signal
2–9	DATA1-8	Input	8-bit parallel signal
10	$\overline{\text{ACKNLG}}$	Output	8-bit data request signal
11	BUSY	Output	Signal specifying printer Busy
12	PERROR	Output	Signal specifying media out
13	SELECT	Output	Signal specifying printer 'ON LINE' (printing enabled) or 'OFF LINE' (pausing)
14	$\overline{\text{AUTOFD}}$	Input	Invalidness (ignorance)
15	NC	–	Not used
16	S.GND	Output	Signal ground
17	FGND	Output	Frame ground
18	P.L.H	Output	Signal specifying Peripheral Logic High (pull up to +5V with 2 KΩ)
19–30	GND	Output	Ground for twisted pair return
31	$\overline{\text{INIT}}$	Input	Printer reset
32	$\overline{\text{FAULT}}$	Output	Signal specifying printer error
33–35	NC	–	Not used
36	$\overline{\text{SELECTIN}}$	Input	Invalidness (ignorance)

● Example of Connection to a Computer

When RS-232C is used:

(IBM PC compatible)

Communication control: XON/XOFF or CTS/DTR



● Tear-Off Function

The tear-off function eliminates the waste of labels when tearing manually. It allows media to automatically advance to the tear position after printing.

When this function is turned on, media will be fed to the manual tear position after printing. The printer will feed back media to the start print position when the next print job is sent.

If data is transmitted continuously from the computer, the tear-off function will be suppressed to increase throughput.

1. Turning Tear ON/OFF

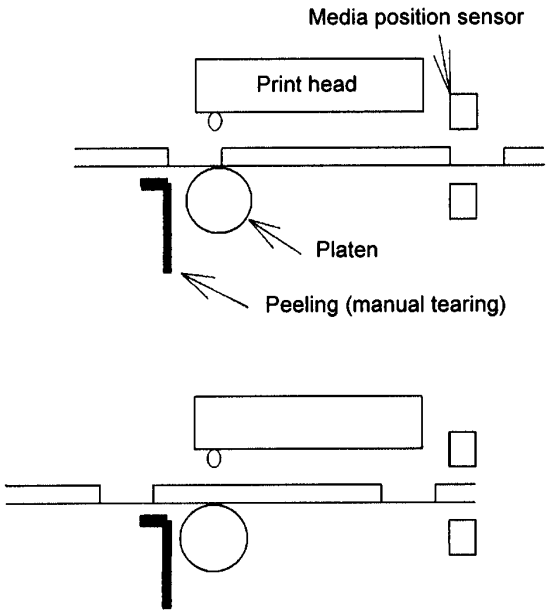
Tear can be turned to ON or OFF from the control panel. Default is OFF.

Indications on the control panel are as follows

LCD screen	
Tear-off invalid	Tear-off valid
'NoAction'	'TearBar'

2. Tear-off when printing

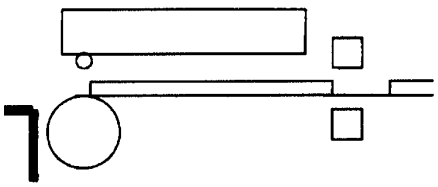
- If set, the tear-off feature will start if no data is transmitted from the computer after printing. If data is transmitted continuously from the computer, the tear-off function will be suppressed. Tear-off is only performed for the final label of each batch processing. (The tear-off is not performed until the specified number of print sheets is completed.)
- Media is fed to the tear position



Tear-off will start if no data is transmitted after printing.

Media are fed to the position where manual tearing is possible

- When manual tearing is needed, tear the label at this time.
- Performs next label printing.
  When next print data is transmitted form the computer, the printer feeds back media to the previous print completed position and resumes printing.



Media are fed back to the previous print completed position and printing resumes

3. Tear-off when feeding

- Media are fed to the tear position.
- When the manual tearing is needed, tear the label at this time.
- Perform next feeding or label printing.

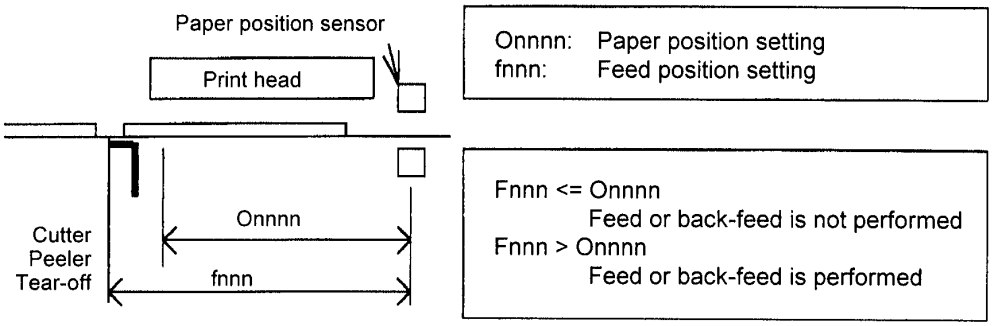
If the Feed key is pressed or next print data is transmitted from the computer, the printer will feed back media to the previous print completed position and resume feeding or printing.

● Cut Position Adjustments

- The cut position can be specified with the 'fnnn' of the system-level commands. When the tear-off function is turned on, the following initialization value is set in the printer.

  Initialization value: fnnn = f735 (73.5 mm)

  The values higher or lower will increase or decrease the amount of feed in the tear-off.



- Parameter initialization values
  Initialization values of print and feed positions by each operating mode are described below.

unit: mm (in.)

	Normal printing	Auto-cutter	Peeling	Tear-off	Minimum value
Print position (Onnnn, form offset)	55.9 (2.2)	55.9 (2.2)	55.9 (2.2)	55.9 (2.2)	12.7 (0.5)
Feed position (fnnn)	55.9 (2.2)	86.3 (3.4)	68.5 (2.7)	73.5 (2.9)	12.7 (0.5)

If values lower than the minimum values are set, the initialization values will be set instead. (When the virtual distance between the print and feed positions' mode is on.)

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